

# MANUFACTURERS' RECORD

A Weekly

Southern Industrial and Hardware

Newspaper.

VOL. 8. No. 24.  
WEEKLY.

BALTIMORE, JANUARY 23, 1886.

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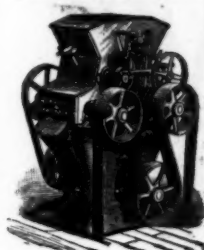
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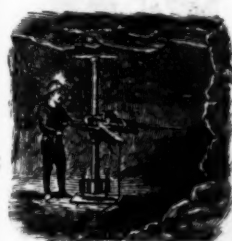
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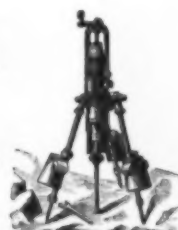
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Transmitting power enormously greater than any other material. Belts cannot slip within the safe strength of the belt itself. Tighteners never required. Weight less than half of iron. Exactly balanced. Slacker and narrower belts and smaller pulleys are practicable. Cannot shrink, check, warp swell or break. Impervious to oil or moisture, and never polish. Insensible to wear. Freights less. Prices competitive.



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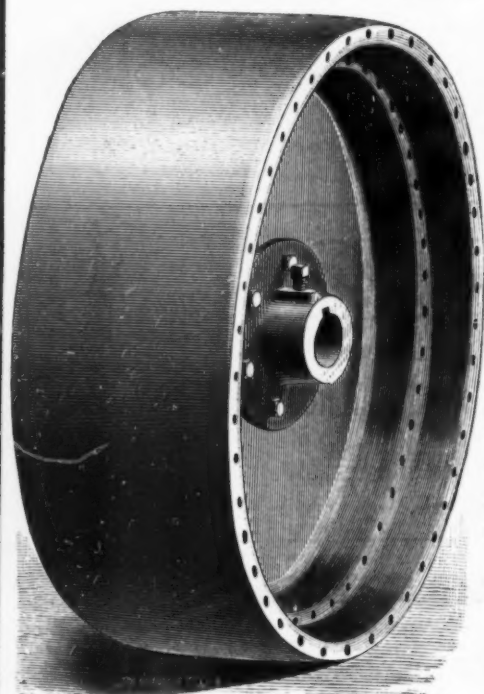
## Construction.

These Pulleys are made of Straw Board, cemented and compressed by hydraulic pressure, dowelled with second growth hickory, turned inside and out on their own hub, sized with water-proofing and varnished inside. Draft of belt is on the edge of grain.

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FOLLOWING IS A SUMMARY IN ROUND NUMBERS:

Comparison of Weights,	24"x 6" Iron,	90 lbs.	Paper,	50 lbs.
	36"x 12" "	270 "	"	138 "
	40"x 10" "	240 "	"	111 "
Transmission, Iron 34 lbs., Paper 144 lbs., for equal tension.				
Tension,	-	150 "	39 "	transmission.
Width,	-	12 inch,	3 inch	(unsafe for belt.)
Diameter,	-	48 "	24 "	for equal tension.
Contact,	-	90° on 24" paper	equals 180° on 36" iron.	



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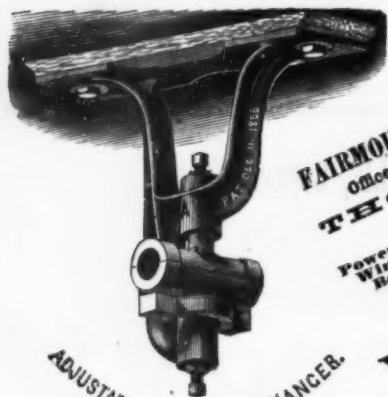
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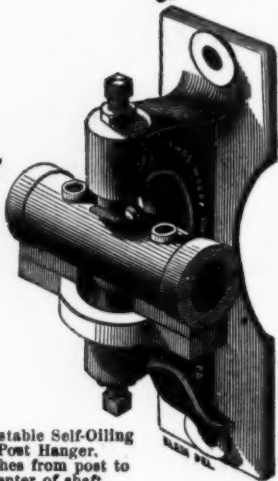
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6 inches from post to  
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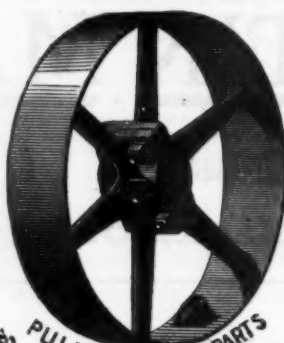
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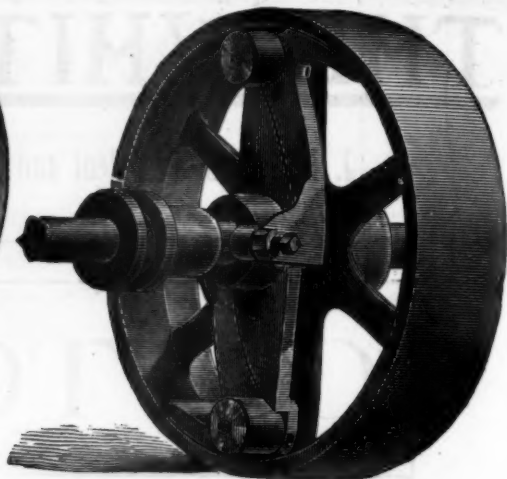
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16, 18 and 20 yards Circumference,  
WITH IMPROVED HECKS.

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ADJUSTABLE SELF-OILING HANGERS,  
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Also WALL, POST AND GIRDER HANGERS.  
Pulleys from 4 inches to 10 feet in diameter.  
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Pulleys in two parts, any size required.  
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**Special Driving,**  
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furnished for any position  
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**PULLEYS** from 4 inches to 10 feet in diameter.

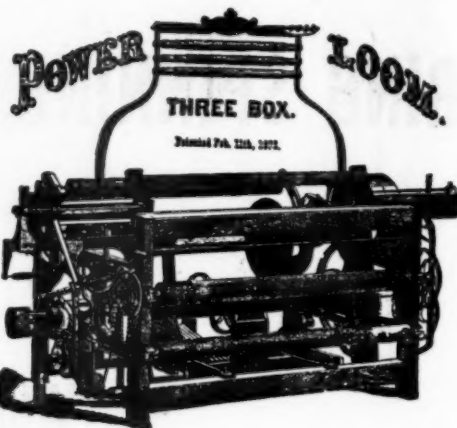
Why use old style Bearings, that require oiling  
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In all Calibres from 22 to 50.

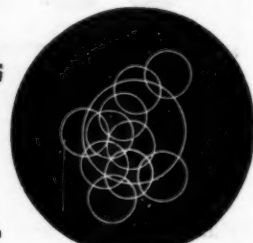
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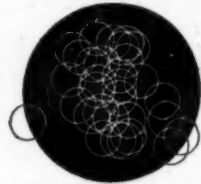


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100 yards, with a MAYNARD  
RIFLE, 28 inch, 32 calibre, 35  
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THIRTY CONSECUTIVE SHOTS,  
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H. G. BIXBY, Nashua, N. H.

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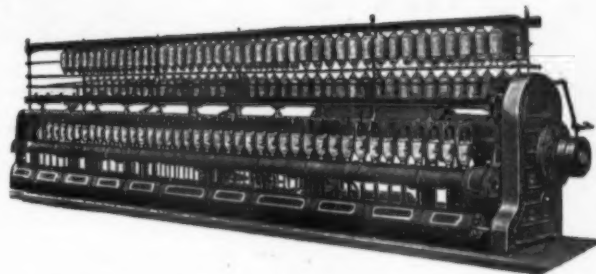
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GOLD MEDAL AWARDED NEW ORLEANS, 1885, FOR BEST RUNNING BELTS.

*Made PERFECTLY Straight and any Length without Joints.**For Main Driving it is the Best. Much Cheaper Than Leather.*

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It pays for itself in preserving the belts.

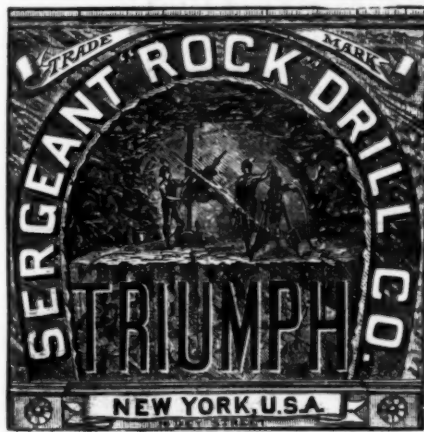
**CHEAP.****SAVE YOUR POWER,****BELTING AND MACHINERY.**

Durable and easily applied.

The belt does not have to be taken off.

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The loss of power by slipping of belts amounts to from 10 to 40 per cent., according to the amount of shafting. This can be added to the CAPACITY OF THE MACHINERY without increasing the labor on the engine, OR, it can be deducted from the FUEL without decreasing the capacity of the machinery.

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Are the Latest and Most Improved Machines that were ever designed for the work required of them. They are the Most Simple, Economical and Effective now known, and will satisfy all Purchasers.

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Complete Specifications for Rock Drilling and Mining Plants Furnished on Application.

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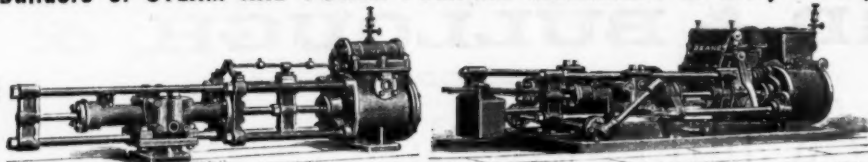
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Hydraulic Pressure

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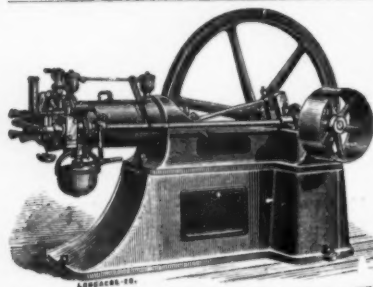
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Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies. UNRIVALLED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes: 1 to 25-horse power.

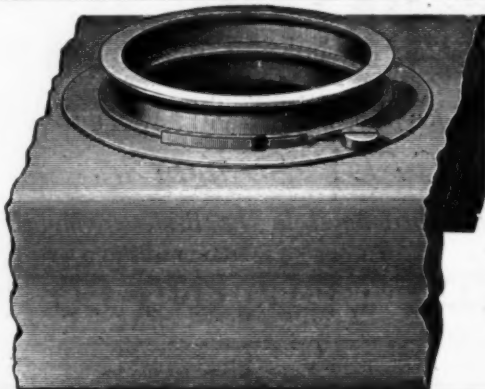
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GEORGE DRAPER & SONS,  
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TELEGRAPH ADDRESS AND RAILROAD STATION,  
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Year	Number of Rings sold.	Number of Rings sold for repairs.
1869	6,005	
1870	30,258	
1871	38,648	
1872	94,264	12
1873	117,301	
1874	166,389	500
1875	223,924	963
1876	185,319	947
1877	270,811	946
1878	213,214	3,309
1879	337,860	8,007
1880	507,360	11,264
1881	659,730	8,974
1882	636,715	22,515
1883	416,500	21,689
1884	319,869	25,105
1885, 9 mos.	218,058	22,373
Total number sold	4,489,794	126,604
Total number in use	4,363,190.	

The great durability of our Rings is shown by the fact that we have more rings in use over twelve years old than all we have sold for repairs.

This statement shows unmistakably that a mill once supplied with our rings need think but little of the cost of repairs. As the number sold for repairs is an average of about twenty per cent. of the number sold the tenth year before, the average life of our rings will be at least twelve years.

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As an encouragement to use none but the best of Rings, we reduced the price on and after the first day of January, 1885, of those 1 1/2 inches or less in diameter, without holders and screws, to be used only to take the place of our rings worn out, to 12 cents each.

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—IMPORTANT FOR ALL LARGE CORPORATIONS AND MANUFACTURING CONCERNS.—

Capable of controlling with the utmost accuracy the motion of a watchman or patrolman as the same reaches different stations of his beat. The instrument is complete in itself, portable, and as reliable as the best lever watch. It requires no fixture or wires communicating from room to room, as is the case with ordinary watch clocks.

The Instrument will in all Cases be Warranted Perfect and Satisfactory.

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# BALTIMORE Manufacturers' Record.

Published Every Saturday by

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BALTIMORE, JANUARY 23, 1886.

## Railroad Commissions.

In the recent discussion of the alleged railroad discrimination against Baltimore in freight rates, some allusion was made to a possible State railroad commission. If persons to whose minds this solution of the trouble suggested itself will take the trouble to study the matter and examine into the workings of railroad commissions elsewhere, they will drop the idea like a hot potato. Their existence in some of the Southern States has done more to hinder the progress of those States than all other causes combined. What is gained in cheaper rates of freight and travel is far more than lost in other ways. The existence of the commissions is a standing menace to capital seeking investment. People are not going to invest money in a State that takes out of their hands the management of their own property. We have heretofore presented statistics showing the amount of railroad building in States having no railroad commission, in comparison with those which are burdened with these encumbrances. The contrast is a most vivid and forcible presentation of the effects of the system. Some of the richest agricultural and mineral sections of the South are lying undeveloped for want of railroad communication, simply because capitalists will not build railroads to be managed by an arbitrary State commission. And localities possessing railroad facilities are shut off from the benefits of competition that the building of new roads would bring. In those States where there are railroad commissions a strong sentiment against them is growing up.

Individuals and journals that advocated their establishment are urging their abolition, and it will not be long before they are things of the past. To talk of establishing a railroad commission now is to advocate a step backwards. The method has been tried and found wanting. There is no agency more essential to the prosperity of a city or community than successfully conducted railroads, and no State can afford to enact such laws as will restrict railroad development. If the merchants of Baltimore are discriminated against, let them encourage the establishment of competing lines. Competition is the surest remedy for excessive charges. The more railroad and steamer lines there are from Baltimore to Southern points, the better will be the service and the cheaper will be the rates. And yet the stock of the proposed steamship line to Charleston is still going begging, and other similar enterprises are lagging, because people choose to complain of rates of existing lines and talk of a railroad commission rather than go to work and open up lines of their own.

## Why Are They "Scattered?"

Under the heading of "Scattered" the New Orleans Picayune bewails the emigration from the South of so many of its ablest and best young men who seek in other sections employment, which it is difficult to find in their old homes. Rightly the Picayune looks upon this loss as a very serious one to the South, and one greatly to be deplored. The MANUFACTURERS' RECORD has repeatedly called attention to it and urged that strenuous efforts should be made to encourage the widest possible development of Southern industrial interests that a broader field of employment might thus be opened to the young men of the South. The Picayune says:

"We feel sensibly the loss of these energetic men, and cannot help thinking that if the South would take to the sea as the carriers of commerce that no men would bear aloft her flag with more courage or conduct; that if our land abounded with mills and furnaces, no men could direct such operations with more success, and that if all these industries were properly developed these men would remain at home to renew the South, instead of being scattered abroad in the service of others to increase a power and prosperity that has been in great part substracted from our own. We wonder at the emigration of the Irish from a land they love so well. We do not observe the emigration from the South. The cause is the same. The want of apt and adequate employment for the people. This Southern migration must become a factor in the equilibrium of the sections, and our statesmen should look to, and, if possible, arrest it."

Unfortunately too many Southern Congressmen, and too many Southern papers, and among them stands the Picayune, are doing all in their power to make the emigration of young men from the South a necessity. It is only by the development of the manufacturing and mining interests, and thus the improvement of every industry in the South, that profitable employment for the rising

generation can be created in the South; and yet, notwithstanding this fact, a fact of tremendous importance to the future welfare of the South, Southern Congressmen are vigorously fighting against the industrial interests of the South. With a few exceptions, they are arrayed against a protective tariff, without which the continued development of the South's vast resources and the building up of manufactures is impossible. How long will the South cling to the traditions of the past and ignore the changed condition of affairs, which makes protection of far greater importance to that section than to New England?

ACCORDING to a dispatch from New York, a marvellous type-setting machine has been invented by Prof. James M. Munson, "which of itself sets type, justifies it, leads it if need be, and places it on a galley. Another machine has been devised to distribute the type automatically. A third machine has been made by which a New York newspaper may be produced simultaneously every morning in every city and town in the country, reducing the newspapers of the country to a score and the printers to a man. The new type-setting machine is operated by means of a perforated ribbon. Machines have been invented for preparing this perforated ribbon. After the ribbon has been used in the machine it may be taken to the automatic telegraph and fac-similes of it be produced at any number of distant points. These ribbons may be fed into the automatic type-setting machines at the different places and the eight pages of a New York newspaper be reproduced in perhaps an hour. The London Times could probably be sent across the ocean and come out in New York every morning. The new machine will work at its maximum speed night and day. It is claimed that it will set type much cheaper than any man can set it by hand. Any number of editions of books may be printed from the ribbons used in printing the first edition. To revise the book one need only revise the ribbons."

We are inclined to think that it will be some time before the human hand is displaced as a type-setter; at least, we would advise our printing friends not to be too much alarmed over this threatened revolution.

CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. Reaching so many capitalists in all parts of the United States seeking profitable investment in the South, the MANUFACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more.

THE Cripple-Creek extension of the Norfolk & Western Railroad, work on which was suspended over a year ago by reason of the financial depression, is again in course of construction. According to a correspondent of the Richmond Dispatch, this extension was projected originally for the purpose of bringing the coal and coke of the great Flat-Top region and the inexhaustible beds of hematite iron ore of the Cripple Creek Valley into close proximity. A sufficient amount of money has been secured now to build and equip the extension, and already twenty-two miles of it have been placed under contract. This will complete the road to Foster's Falls, in Wythe county. It is probable, however, that it will be built nine miles further up New river, past the Wythe lead mines, to Ivanhoe furnace, near the junction of Cripple creek with New river. It is now declared by some, who profess to know, that from Ivanhoe the road will probably be extended up the river into North Carolina, in preference to following the original survey up the creek.

The same correspondent says:

"Captain Frank G. Ruffin, chief engineer of the Virginia & Kentucky Railroad, was in Wytheville this week, and reported that the greater portion of that road would be let to contract before the beginning of next month, and work on the same would commence early in the spring. When completed this road will connect at its eastern extremity with the Danville & New River Railroad, and extend through Wytheville in a westerly direction into and through the great coal fields of Tazewell county. A branch of it will also extend up Cripple Creek Valley for the purpose of securing the iron ore of that region for smelting purposes."

THE Fall River correspondent of the Boston Globe, after reviewing the cotton manufacturing interests of that city for the past year, says: "The record of 1885 is not a very bright one, even when compared with the dull business of 1883 and 1884. But to-day, with a stock of goods lower than has been known for years, and with the enormous quantity of 1,595,000 pieces sold ahead, our manufacturers enter upon the new year with strong hopes of an improving business. Already the indications of a brisk spring trade are accumulating, and the print works even now is forced to run extra time to keep up with its orders."

THE Atlanta Capitol has completed its first six months, and during that time has scored a wonderful success. It has paid from the start, and its prosperity has steadily increased. A more vigorous and spicy evening paper can hardly be found, and yet it carefully avoids sensationalism. We congratulate Col. Avery, the editor, and his fellow-workers upon their great success.



## Our Birmingham Letter.

[Special correspondence BALTIMORE MANUFACTURERS' RECORD.]

BIRMINGHAM, ALA., Jan. 18, 1886.

As might be expected, in view of the current bear movement in the Eastern pig iron market, there is not any farther advance in that commodity to note this week, and it may be observed that the effort to depress the market on the part of the Thomas Company and other Pennsylvania interests, is not here regarded with anything but equanimity. The Birmingham iron masters could get along very comfortably on the quotations of January 1, and if their Eastern and Northern prototypes are content, everybody ought to be happy. Iron matters are quieter for the time being, although orders are still larger than the furnaces are particularly anxious to fill. There is a pretty general conviction that while iron may not go much higher, there is even less probability that it will drop materially lower. Accumulations of stock are safe enough under such conditions, and that is the tendency where the pressure of orders at full prices does not render it impracticable. The pig iron market may be quoted quiet but firm at the figures reported last week. In other departments of the industry there is nothing especially novel. In rolling mill products there has been perhaps a fractional improvement since the close of 1885, but the advance, if any, has not been well worth talking about. Bar iron has not responded to the advance in pig metal to the extent, or anything like the extent, usual in such connections. Rolling mill men state that an advance of two dollars per ton in pig has been generally followed by an immediate advance of three or four dollars per ton in bar iron. This time the rule has fallen foul of an exception, and while the quotations of the former have risen three dollars or so, the price of the latter remains at not much above the price obtaining early in December. There is reasonable activity in all iron lines, the rolling mills, foundries, pipe works, etc., being still behind on orders. In general business, the community has not quite recovered from the lull that inevitably follows holiday activity, but there is a fair volume of business and no complaint of dull times. All the indications point to enlarged operations in all departments, with the practical commencement of effort for the year 1886.

The severely cold weather of the past week has been unfavorable to land operations, and yet the sales at the land department offices of the Louisville & Nashville and the Cincinnati, New Orleans & Texas Pacific have been larger than for several weeks previous. The L. and N. Company has just completed a sale of some excellent mineral territory near Birmingham, and sales of the same sort of property are reported from the Alabama Great Southern office. Birmingham has become such a centre for all land business in the Mississippi Valley that the splendid pine territory of the New Orleans & Northeastern Company has been listed here for sale. Probably there is not a better body of long leaf pine land in the South than that referred to. It consists of 50,000 to 60,000 acres, carefully selected, and all accessible to a trunk line connecting Cincinnati with New Orleans. I believe it has never been generally offered for sale until now, and it ought to attract the attention of the Northern and Western capitalists who are so largely looking out for choice pine lands at this time.

Some remarks made in a previous letter in regard to the discovery of an excellent deposit of silica within a mile and a half of Birmingham, have resulted in numerous enquiries by Eastern glass manufacturers concerning the same. Orders for sample lots have been received from various coast

points, and one company already announces its willingness to establish a plant here, subject only to thorough expert examination of the sand deposit. It is expected here that glass works will be started within the year, and doubtless the right parties could enlist local capital in such an enterprise.

On last Thursday the presidents and general managers of the Louisville & Nashville and Queen & Crescent systems had a consultation at Birmingham on the details of the Union Station, which is to be commenced here at once. Plans and elevations have been published, providing for a very handsome structure in the general style of the English *renaissance*, so much in vogue everywhere at present. The certainty that the station will be built has given something of a boost to property in the immediate neighborhood, and a number of lots are changing hands at prices that would have appeared extravagant a couple of years ago. Property generally has not been inflated, and, although high when compared with prices in most Southern towns of like population, it is not so when the business and certain demands of the community are considered. Indeed, it is low in proportion to the visible foundation of the city's industrial and mercantile pretensions. Before the town of Winnipeg, Manitoba, had reached the present population of Birmingham by several thousands, property in the former place was three times as high as it is in the latter. Of course, there was a "boom" in the case of Winnipeg, from which the Lord deliver us! The postmaster of Birmingham told me the other day that he had made a careful canvass of the population, and that it demonstrated the fact that we now have over 25,000 people living within easy walking distance of the post-office. That does not sound especially metropolitan to residents of great cities like Baltimore, but for a Southern town it is certainly a fine growth in 14 years from a cotton field!

There appears to be serious danger that the story of Rip Van Winkle may encounter "injurious competition" from a Hocking Valley iron master, who is alleged to have been caught fresh and interviewed by the New York correspondent of the Philadelphia Times. One "Col. Jerry Long" is the individual in question, and the newspaper man makes him say that Southern competition is only felt at the North in times of great depression, when there is not any money in the business. The Colonel made another statement to the effect that they were making iron in the Hocking Valley just as cheaply as at Southern points. "It is all very well to talk about making iron at Birmingham and other places in the South so cheaply. The Northern furnaces can make more iron at a blast than the Southern, and with no more strain. I don't believe there is a blast furnace at the South that can make over twenty tons, while we have plenty of them in this section that can make sixty." Naturally, people like "Col. Jerry Long" have not heard that while the furnaces in his vicinity were in a condition of panic and collapse, the Birmingham furnaces were shipping their product to Philadelphia and Pittsburgh, and making money at the business. People generally are aware of the fact, however, and also that there are furnaces in this region of more than 20 tons capacity—the Sloss No. 1 alone is stated at 125 tons, and there are plenty of 80 to 100 in the district. The charitable societies of the East ought to circulate the MANUFACTURERS' RECORD throughout the Hocking Valley as a missionary effort, which, indeed, might be extended to the Philadelphia Times with salutary effect.

For quite awhile the advanced among the leading citizens of Birmingham have had their hearts set upon holding a universal

mineral and metal exhibition here at some time in the future. The Mayor of the city, the Hon. A. O. Lane, has taken a great deal of interest in the matter, and, largely through his initiative, the project is beginning to assume shape. A meeting of prominent manufacturers, merchants and bankers is to be held within a few days, when some sort of organization will be effected for preliminary work. It is desired by those who have given the scheme attention that the services of Mr. H. I. Kimball, of Atlanta, may be secured in general charge of the enterprise. Mr. Kimball took the Atlanta Exposition in hand, and made a success of it, and it is believed that he would prove the very best man for the Mineral and Metal Exhibition at Birmingham. It is not known that he would or could accept such a task, but the ardent wish that he may is father to the hope that he will. It is thought that the necessary arrangements could be made, and requisite facilities and accommodations supplied by 1888, although if 1889 were vacant as regarded large expositions, that year might be preferable. It happens, however, that the French government is expecting to have a World's Fair in Paris in 1889. Possibly a special exhibition like the one proposed here might not be affected by a foreign general exhibition, but the probability remains to be determined. Chicago will put her best foot forward in 1890, and if anything is to be done in this section, it should be accomplished before that great city begins in the fair business. The great interest excited by the industrial success of Birmingham, and manifested both in this country and Europe, seems to afford good reason for believing that a mineral exhibition in this city would attract widespread attention, co-operation and patronage. There is much likelihood that it will be tried at all events.

G. B. WEST.

## Notes From the Bluestone District, Virginia.

The building by the Norfolk & Western Railroad Company, of their New River branch, from Center Station along the New River 75 miles to the Great Flat Top coal field, has been the cause of bringing a large amount of capital into the southwestern part of Virginia and the rapid development of a great steam coal field, as has been shown by the increased shipments during the past year. The South-West Virginia Improvement Company were the first to develop the field and enter the market with this coal, and are now steadily operating their extensive mines and coke works at Pocahontas, Tazewell county, Virginia.

The next to enter this field was the Bluestone Coal Company, with Mr. C. H. Duhring president, and J. H. Bramwell general superintendent, assisted by Mr. John Tierney, as mining engineer. This company purchased a tract of 5,000 acres containing this valuable seam of coal in Mercer county, West Virginia, near the Old Virginia line. They do not propose operating mines, but are preparing the property for opening into coal at different points, and leasing from three to four hundred tracts to different individual operators and companies. During the past year three different companies have made leases and opened up mines, erected large tipples, and other necessary buildings, and are already prepared to ship quite a large daily output from their mines. Unfortunately, a strike was inaugurated by the miners of this district several weeks ago, which has caused a suspension of work, the coal coming from Flat Top region since nearly all coming from the Pocahontas mines.

The Norfolk & Western Railroad Company built a branch into this new field, leaving the New River branch one mile and a-half from Pocahontas running eight miles up the Bluestone, along which the three new

companies are operating. The Bluestone Company have established headquarters at Bramwell, three or four miles from the junction, where they have sold out a number of lots and a pretty little village is growing up.

The first parties to lease from the Bluestone Coal Company were John Cooper & Co., from the New River, West Virginia, field. Their lease consists of 131 acres, one and a quarter miles from the junction. Their works are known as the Sterling Colliery. The mine openings are made similar to the Pocahontas mines, drifts into the side of the hill. They have two main entries and a fan entry. The coal seam runs from eleven to twelve feet in thickness all through this part of the field. The different companies in making openings, leave about one foot of coal on the bottom and two and a half to three feet up for roof, thus mining seven and half to eight feet of clean, pure coal, free from slates or other defects. In drawing back pillars as much of the top coal is secured as is possible to get down with safety. The ventilation is good, having a fan 14 feet in diameter constantly in use. The tipples and other mine appliances are all good, having been erected with a view of making large shipments in the future. This mine has already been well developed, having previous to the strike 125 men at work. Mr. John Cooper gives the works his personal attention, and has already built a number of houses for his employees. A large new store room, warehouse and office building is about being completed.

The second lease was taken by the Casswell Creek Coal Company, composed of Mr. John Freeman and Jones, formerly of the Fire Creek works on the New River. Their lease consists of 320 acres, and lays back two miles from the mouth of Simmons Creek, reached by a branch which leaves the Bluestone branch four miles from the junction. Already their openings are quite extensive, having 110 men employed when the strike came on. These openings are the same as the Sterling with two main entries and a fan entry using a 14-foot fan for ventilating purposes. Fine large tipples and other necessary buildings have been erected, together with twenty-one houses, and more will be added as the mining facilities are developed. Many of the men employed in these mines are colored and "batch" in little shanties constructed by themselves, but the companies are building some comfortable dwellings for the accommodation of their employees.

The Reliance Colliery was the third and last to be leased and opened by Wm. Booth & Co., of Pennsylvania, under the general supervision of Mr. J. P. Bowen. Their lease also embraces a tract of 320 acres alongside of Freeman & Jones. An opening similar to the other two has been made into the coal, where about 65 men have been employed. A twelve-foot fan is used for ventilating this mine. All three of these companies are extending their works and getting ready to increase their shipments when the cars can be had. At the present time from 80 to 100 cars per day could be furnished from this region were all running up full to their capacity. All the coal from this district is sold through the Pocahontas Coal Company with headquarters at Roanoke.

The miners of these three mines were paid 70 cents per car for run of mine coal, the same as at the Pocahontas mines, but here no yardage is paid for room-turnings or break-throughs for ventilating purposes, which is done at Pocahontas, hence the strike.

The future of this coal field is very promising. The building now commenced of the Cripple Creek branch of the Norfolk & Western Railroad into one of the finest ore fields of Virginia, bids fair to cause a number of the charcoal furnaces now in operation there to be remodeled into coke fuel furnaces and as a natural consequence the coke must be made in the Flat Top fields. As at least two of the new companies in the Bluestone district are old coke makers from the New River region, they no doubt will take advantage of it and enter the field as coke makers.—The Coal Trade Journal.



## MINING NOTES.

By T. K. BRUNER, Salisbury, N. C.

### THE STEELE MINE,

in Montgomery county, sold a short time since, is now the scene of much activity. Arrangements are being made to work the property on a large scale, and some of the machinery will be put in motion soon.

### BIG RUSSELL MINE,

also in the same county, is now turning out from eight to nine thousand dollars worth of gold per month. This property ought and will pay the English owners a fair rate on the investment, under judicious management.

### BRIGHT AND OPHIR MINES,

two valuable properties adjoining each other and owned by the same parties, are being worked now. Both properties are showing up well, and they will be among the producers of the State when they get under full headway.

ture of glass, to beautify, or discharge tints which are undesirable from the material. Another use is for the preparation of commercial oxygen for illuminating purposes. No large deposits of pyrolusite have yet been located in North Carolina, yet it exists in more or less abundance in Cabarrus, Catawba and in several of the extreme Western counties.

### ZIRCON

has a hardness of 7.5; specific gravity of 4 and sometimes more; crystallizes in the tetragonal system, and is essentially silica and zirconia, thirty-three parts of the former to sixty-seven parts of the latter. Some of the clearer crystals, of brown, red and yellowish tints, are used as gems, and are known among jewelers as hyacinth. It is abundant in this State, and is found in Burke, Henderson, Polk, Rutherford, Caldwell, McDowell and other counties.

### ALLANITE

is monoclinic in crystallization, with a hardness of 5 to 6; specific gravity of 3 to 4. It is similar to epidote in composition, but with the addition of many related elements. Professor Kerr analyzed a specimen which

## New Style, Improved 50-inch Resawing Machine.

The accompanying cut shows the new and improved resawing machine manufactured by Connell & Dengler, Rochester, N. Y., who will furnish any desired information not given in this description. The frame of this machine is cast in a solid mass, thus doing away with joints and bolts and making a very stiff, substantial and convenient machine to operate.

It is not only new in style of frame but has a very decided improvement that will commend it to mill men generally, viz: That the ends of the frame are open, allowing the saw to be rolled out of the machine when necessary, instead of lifting it out of the frame as in the old way. The very thinnest saws are used, which greatly enlarges the capacity over those most commonly used. At a recent test 8,000 feet of lumber passed through this saw in one hour and fifty minutes. But while rapidity is of great value, a more important thing to be considered is a reduction in waste. Although much has been accom-

## Large Wages Paid to Nailers.

The following has been sent out for publication by the Wheeling Nail Association: "The following statement of wages earned by nailers is taken from the books of one of our Wheeling factories, and covers a period of eleven consecutive months, during which time the factory was in operation 228 days. During all this time the 21-cent scale was paid—the same as is demanded by the Nailers' Association. There are ten representative jobs given below, each of which was run by one nailer and four feeders, the nailer receiving the exact amount set down opposite this job, while the four feeders received an equal amount on "hot jobs" and two-fifths on "cold jobs," divided between them. That is, each feeder got almost one-fourth as much as the nailer who employed him, and as the nailer's average is shown to have been \$8.61 per day, the feeder's average was about \$2.15 per day.

### KINDS OF NAILS CUT BY NAILERS.

	Nailer's wages after paying feeder.	Daily average.
Spike job.....	\$ 2,648	\$11.69
20d nails and 10d fence.....	2,983	10.01
Clinch job.....	2,170	9.52
8d and 10d nails and 8d fence.....	1,861	8.17
10d, 12d, 16d, 20d nails and 10d fence.....	1,846	8.10
4d nails and barrel nails.....	1,840	8.07
6d nails, 8d casing and finishing.....	1,837	8.06
8d and 10d nails and 8d fence.....	1,818	7.98
3d and 4d nails 3d fine.....	1,797	7.93
3d and 4d nails and barrel nails.....	1,831	7.15
Total paid to ten nailers.....	\$19,646	\$86.17
General average.....	1,964	8.61

As stated above, these are fairly representative full jobs, and show that nailers can average \$8.61 per day at the 21-cent card, and make from \$9.50 to \$11.50 per day on the best jobs. A reduction of about 19 per cent, is asked, which would bring the daily average down to \$6.97, and the per diem on the best jobs to \$7.70, \$8.10 and \$9.40, respectively. A day's work is ten hours, and any class of mechanics who can average about \$7 per day, or \$42 per week, should not pose as martyrs to the rapacity of capital."

## Gasoline Gas and the Otto Gas Engine.

Probably many who have erected or contemplated the erection of a small power plant for which a gas engine seemed specially applicable have encountered difficulties in the matter of gas supply and have perhaps made unsuccessful attempts to press gasoline gas into service. To such the following from a correspondent of the English Mechanic will prove interesting: "I send you an account of an Otto gas engine which has been worked for three years with gasoline gas, at a cost of about £6 per year. Some three years since I bought a 1-horse Otto gas engine. I also purchased of Mr. F. W. Clark, of London, one of his patent gasoline gas apparatus, on condition that if it would not drive the engine it was to be returned.

"The engine did not at first work quite satisfactorily, but I felt convinced that it could be made to do so. I concluded to keep the gas apparatus, and I then began to experiment with the engine, and for upward of two years it has worked to my entire satisfaction. In summer time I can light the gas apparatus and have the engine running in ten minutes, and in one minute can stop engine and gas apparatus, leaving both perfectly safe till again required. In winter time, in very cold weather, more time is required to get the apparatus hot—about 20 minutes. The secret is this: Heat your cylinder and your gas and you will have no further trouble. I have two copper boxes (through which the gas passes to cylinder and slide lights) fixed on the top of the retort, and the waste heat from making the gas is sufficient for this purpose. I also heat the water in the jacket of cylinder to about 100° by having a Fletcher's gas bath-heating apparatus between cold water supply tank and cylinder, so that I can shut off the cold water when necessary. If any of your readers will do the same they will have no difficulty in working the Otto gas engine with gasoline gas."

### USEFUL MINERALS.

A few of the rare and yet useful minerals were mentioned last week. It may be well to continue the list from time to time as occasion may offer.

### RUTILE,

has a hardness of 6 to 6.5; specific gravity 4 to 4.5; and consists of titanium six parts to four of oxygen. Rutile is tetragonal in crystallization, and has several uses. It enjoys a limited use in porcelain painting, and it is also used as a gem. Gems cut from perfect specimens have a lustre and color resembling black diamonds. Sagenite is acicular crystals of rutile meshed in a matrix of limpid quartz, and the finer specimens are much sought both for use as gems and as cabinet specimens. Alexander, Burke and Caldwell counties produce the finer specimens.

### PYROLUSITE

is the black oxide of manganese. It crystallizes in the orthorhombic system, and has a hardness of 2 to 5; specific gravity of 4; with about sixty parts of manganese to forty of oxygen. It is used in the manufac-

contained (quantities omitted) silicic acid, alumina, ferric oxide, ferrous oxide, manganous oxide, cerous oxide, didymous and lanthanous oxides, yttria, magnesia, lime, soda, potash and water. It is found in Buncombe, Mitchell, Iredell and other counties in the Western part of North Carolina.

### CYANITE,

or kyanite, is triclinic; hardness 5 to 7; specific gravity, 3.5. It is composed of silica, say one part to two of alumina. It belongs to the mica and hornblende schists common to the Western part of the State, and is abundant. It is sought as cabinet specimens, and is occasionally used as a ring stone. The crystals are generally white, grey and several shades of blue.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the BALTIMORE MANUFACTURERS' RECORD.

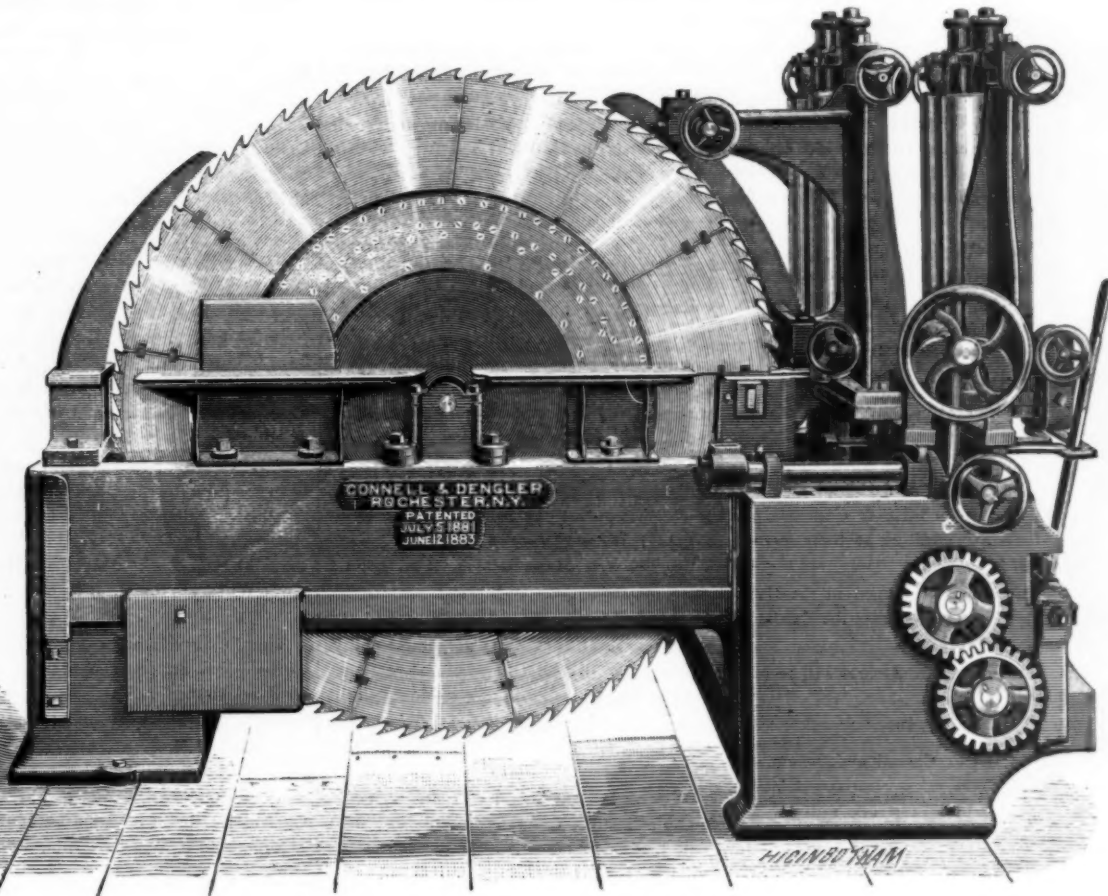
plished in the way of economy of material, by the use of thin saws, the most important step in this direction was taken with the introduction of resaws.

The manufacturers of the resaw machine shown in cut have spent many years in experimenting to perfect their machine, and they now claim to have the most complete and perfect machine for resawing rapidly with the least possible waste of lumber, that has ever been produced.

A reversible feed is provided, by means of which boards may be run back from the saw without stopping or opening the feed rolls. These machines have been very popular wherever used.

THE MANUFACTURERS' RECORD is one of the most authentic papers published in this country.—Maysville, Ky., Bulletin.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.



NEW STYLE IMPROVED 50-INCH RESAWING MACHINE.

# CONSTRUCTION DEPARTMENT.

**WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.**

## ALABAMA.

Baird & Gillmore are erecting a saw mill at Paint Rock, Ala.

R. C. Carter has moved his shingle factory from Rockmart, Ga., to Childersburg, Ala.

The Acid Iron Earth Co., Mobile, Ala., previously reported, will erect a large laboratory.

Nichols & Co., Childersburg, Ala., are rebuilding their saw mill recently burned.

Cartie & Haynie will erect a saw mill and shingle factory one mile from Childersburg, Ala.

W. H. Davidson, Cullman, Ala., has sold 20,000 acres of coal and iron land in Jefferson and Shelby counties to an Indiana syndicate.

## ARKANSAS.

C. W. Clark, Little Rock, Ark., has received the contract to build an \$18,000 court house at Jonesboro, Ark.

## FLORIDA.

J. T. Welborne, Walter R. Yates, L. McLain, T. F. Huggins, Joshua C. Chase, Robert W. Givin and J. J. Harris have incorporated at Sanford, Fla., the Florida Fruit Insurance & Manufacturing Co., capital stock \$500,000, to do an insurance business and to manufacture wine, citric acid, jellies, &c.

George E. Macy will, it is stated, enlarge his wagon manufactory at Orlando, Fla.

W. J. McMillan, Orlando, will add shingle machinery to his saw and planing mill at Sebastian, Fla.

## GEORGIA.

Rushton & Dixon have purchased a site at Rome, Ga., on which they will erect a 6-ton ice factory. Will cost with site about \$20,000.

D. Bukofzer, of the Dalton Compress Co., Dalton, Ga., is corresponding with parties with a view to buying a new and larger compress.

Charles Beynough, of Indianapolis, Ind., and Charles D. Lord are erecting a large saw mill near Red Bluff, Ga. Will add machinery for making staves.

Mr. Kendall is starting a carriage factory at Atlanta, Ga.

Smith & Williamson are erecting a steam grist mill at Flovilla, Ga.

W. T. Gullede, Fort Valley, Ga., has added sash mill machinery to his saw mill.

E. H. Crauley has contracted for machinery for a grist mill and ginnery, which he will erect at Waycross, Ga., in the spring.

Dwight Gibbs, Dubois, Ga., contemplates erecting a new 50-horse-power engine, and a new saw mill.

W. M. Dixon & Co., Quitman, Ga., will start works for manufacturing pressed bricks. The machinery has been ordered.

E. Walton will erect a saw mill in Richmond county, Ga.

## KENTUCKY.

Bills have been introduced in the Kentucky legislature to incorporate the Henderson Street Railway Co.; the St. Louis, Carbondale, Metropolis & Paducah Railroad; the Versailles & Midway Railway Co., and the Economic Light Co., of Louisville, capital stock \$1,000,000, with John B. Castleman, Temple Bodley and Arthur Rutledge, of Louisville, and C. W. McElroy, of Bowling Green, as incorporators. The object is to pipe natural gas from Brandenburg to Louisville for heating and manufacturing purposes.

## LOUISIANA.

A company has been formed to build a railroad from Magnolia, Ark., to Alexandria, La., passing through the iron fields of Claiborne Parish.

Duncan F. Kenner, D. R. Calder, R. Milliken, John H. Maginnis, J. C. Morris, Ambrose Smith and N. B. Trist have incorporated at New Orleans, La., the Planters' Fertilizer Manufacturing Co., capital stock \$50,000.

## MARYLAND.

J. L. Adkins, Robert B. Dixon, J. F. Turner, Joseph H. White, W. E. Shannahan and Charles E. Shannahan have organized a stock company at Easton, Md., to build water works. The water will be obtained from artesian wells.

The Co-operative Druggists Glassware Manufacturers' Association, Baltimore, previously reported, have increased their capital from \$10,000 to \$40,000. Their factory at Mt. Winans, Md., is nearly completed.

Joseph S. House is having his flour mill near Middleton, Md., refitted with roller process machinery.

The Schultz Gas Fixture & Art Metal Co., reported last week as incorporated at Baltimore, succeed A. Schultz & Co., and will erect a four-story addition to their factory, 40x160 feet.

A bill has been introduced in the Maryland legislature to incorporate the Baltimore County Water Works Co.

A hotel to cost about \$50,000 will be built at Catonsville, Md.

## MISSISSIPPI.

E. Martin, E. C. Carroll and others will organize a \$25,000 stock company at Vicksburg, Miss., to build a street railroad 4½ miles long.

The building of water works is being considered by the city council of Meridian, Miss.

The Barataria Canning Co., whose works at Biloxi, Miss., were recently reported as burned, will rebuild, trebling their former capacity.

Baker & Holcombe, it is reported, will start a machine shop at Water Valley, Miss.

Bills have been introduced in the Mississippi legislature to incorporate the Kansas City & Birmingham Railroad Company, the Vicksburg Water Works Company and a street railway company at Greenville.

## NORTH CAROLINA.

The Odell Manufacturing Co., Concord, N. C., will add 40 new looms to their plant. Improvements and additions have been made to their mill in the last six months costing about \$3,500.

P. H. Gary, Manchester, Va., is erecting a tobacco factory at Henderson, N. C.

W. T. Gray is making arrangements to start a tobacco factory at Winston, N. C.

Ross & Foster, Morganton, N. C., have purchased machinery for a sash and blind and door factory.

P. H. Kornegay will erect a tannery at New Berne, N. C.

H. W. Russell, of St. Louis, has submitted a proposition to Asheville, N. C., to light that city with electric lights.

The Thompson-Houston Electric Light Co., Raleigh, N. C., are erecting two 60 horse-power engines on Davis street, and will move their dynamos to that location.

J. M. Tiernan is negotiating for machinery to be erected at the Mike Holtshouser mine, in North Carolina.

The firm of Mangum, Webb & Oates, reported last week as formed at Shelby, N. C., to manufacture tobacco, have a capital of \$15,000.

W. W. Avery will erect a saw mill at Morganton, N. C.

Bowden & William, Morganton, N. C., have purchased machinery for a sash and blind factory.

## TENNESSEE.

The Tennessee Pump Co. have removed their factory from Memphis to Millington, Tenn.

A St. Louis party is prospecting at Humboldt, Tenn., for a location for an axe handle factory.

W. L. & H. J. George contemplate erecting a tannery at Dellrose, Tenn.

J. P. Rawley, Mt. Airy, N. C., has rented a building at Bristol, Tenn., for a tobacco factory.

D. W. Starkey is seeking a suitable location for starting a paper mill. He is now at Chattanooga, Tenn., investigating the advantages of that place.

The Beck, Bransford & Ekdahl Furniture Co., whose factory, at Union City, Tenn., was reported last week as burned, will rebuild. The loss was \$35,000.

The stock company previously reported to build a tobacco factory at Greeneville, Tenn., has been organized by M. P. Reeves, J. Hunter, J. H. Doughty and others, as the Greeneville Tobacco Manufacturing Co.; capital stock \$20,000.

Austin & Co. have nearly completed their new furniture factory at Johnson City, Tenn.

J. M. Hunter has commenced work on his new flour mill at Carter's Creek, Tenn., previously reported.

## TEXAS.

Wear & Lee, Belton, Texas, are trying to organize a stock company to build the flour mill previously reported. If not successful, will place roller process machinery in their own mill.

A cotton-seed oil mill is in contemplation at Denison, Texas.

Water-works are being built at New Braunfels, Texas.

It is reported that W. A. Huffman, Cleburne, Texas, will erect a new flour mill with roller process machinery.

Carson & Lewis, Weatherford, Texas, are putting roller process machinery in their flour mill. The capacity will be 125 barrels per day.

Knowles & Son will erect water-works at Llano, Texas. Work will be commenced at once.

O. M. Eakle will erect a \$25,000 ice factory at Fort Worth, Texas.

A company is receiving subscriptions toward building a roller flour mill at Gordon, Texas.

San Angelo, Texas, is considering a proposition for the establishment of electric lights.

A new gas company will be started at Denison, Texas, by Mr. Warden, of Philadelphia; Henry C. Pierce, of St. Louis, and E. F. Hathaway, of Denison, if permit to lay pipes is granted.

William Leroy will start a steam laundry at Honey Grove, Texas.

## VIRGINIA.

The contract for building a depot for the Richmond, Fredericksburg & Potomac Railroad Co., Richmond, Va., previously reported, has been let to Cubberly & Kafer, of Trenton, N. J.

The Derby Dell Mills (woolen), owned by Tynes & Haman, near Tazewell C. H., Va., reported last week as burned, will be rebuilt.

Ford, Moorman & Co. are rebuilding their tobacco factory at Lynchburg, Va., recently reported as burned.

Andrews & Elsom have, it is stated, purchased an old mill at Charlottesville, Va., and will put machinery in it to grind corn and manufacture plaster.

John E. West has received the contract at \$11,257.50 for erecting a school building at Portsmouth, Va.

Bills have been introduced in the Virginia legislature to incorporate the Dan River Mining Co.; the Morotock Manufacturing Co., of Danville; the People's Illuminating Co., of Portsmouth; the Universal Railroad Co.; the Surry, Sussex & Southampton Railway; the Virginia Mineral Belt Railroad Co., and the Wythe & Speedwell Mining & Manufacturing Co.

## WEST VIRGINIA.

Mr. Balch and John Schaul will each erect saw mills at Leetown, W. Va.

Samuel Laughlin, Charles H. Odbert, John L. Laughlin and George A. Laughlin have incorporated, at Wheeling, W. Va., the Laughlin Bros. Drug Co., to manufacture drugs and medicines. The capital stock is not to exceed \$100,000.

The National Mechanical Power Co. has been incorporated in West Virginia to manufacture appliances for extracting trees, stumps, etc., by D. B. McKibber, W. S. Johnson, Henry C. Blackburn, Albert Gleason and Roy Whitman, of Washington, D. C. The principal office is to be at Washington.

The Fidelity Lumber & Boom Company, capital stock \$10,000, has been incorporated at Rowlesburg, W. Va.

J. W. Humbird, A. B. McKaig, W. M. McKaig and D. J. Blackiston, of Cumberland, Md., and E. McDowell, of Somerset, Pa., are the incorporators of the Coalrairie Coal & Lumber Co., reported last week as incorporated in West Virginia. The capital stock is \$10,000.

## BURNED.

Clarke & Warren's oil works at Highlandtown, near Baltimore, Md. Loss \$8,000.

Harper's Rolling Mill at Newport, Ky., damaged about \$10,000 by explosion.

The steam saw and grist mill of H. W. Rice, Midway, S. C.

T. M. William's gin, near Arcola, Miss. Loss \$3,000.

Mr. Vick's gin and mill in Clarke county, Miss.

J. Williams' steam mill in Lowndes county, Ala.

Mr. Keatons' saw mill, 4 miles from Milan, Tenn.

Saw mill of Mr. Moose, near Newbern, Tenn., wrecked by explosion.

The machine shops of the Brunswick & Western Railroad at Brunswick, Ga.

## LOCKWOOD, GREENE & CO. MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I. Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.



**Enlarging Factory.**

BALTIMORE, Jan. 20, 1886.

*Editor Manufacturers' Record:*

The Shultz Gas Fixture & Art Metal Company succeed Messrs. A. Shultz & Co., who have been engaged in the same business for the past two years. The company occupies the factory of A. Shultz & Co., 40x160 feet, and are now about to erect a four-story addition covering about the same space.

F. W. SHULTZ.

**Will Rebuild.**

UNION CITY, TENN., Jan. 16, 1886.

*Editor Manufacturers' Record:*

Our factory was burned; two hundred men thrown out of work; loss \$35,000, insurance \$10,000. We will rebuild with a one-story brick.

BECK, BRANSFORD &amp; EKDAHL

FURNITURE COMPANY.

**\$20,000 Tobacco Manufacturing Company.**

GREENVILLE, TENN., Jan. 15, 1886.

*Editor Manufacturers' Record:*

The Greenville Tobacco Manufacturing Company has been organized by M. P. Reeves, James Hunter, J. H. Doughty and others. Capital \$20,000. T. J. LANE.

**Furniture Factory.**

ASHEVILLE, N. C., Jan. 16, 1886.

*Editor Manufacturers' Record:*

We have determined to put up a large furniture factory in Asheville, N. C. We propose to put into the business at least \$20,000, and possibly a good deal more.

AVERY &amp; ERWIN.

SHELBY, N. C., Jan. 15, 1886.

*Editor Manufacturers' Record:*

I have formed a company, with a capital of \$15,000, to manufacture tobacco. Firm's name, Mangum, Webb & Oates.

J. A. MANGUM.

**Gas Works.**

GOLDSBORO, N. C., Jan. 18, 1886.

*Editor Manufacturers' Record:*

The city of Goldsboro has given to the New York Contract Company the right of way to lay new pipes through the streets of the city, the work to begin in 90 days. They say that they will certainly build the works. The company is as follows: J. B. Smith, president; J. L. Smith, treasurer; H. O. Reed, secretary, and T. G. Macy, engineer, No. 2 Nassau street, cor. Wall, New York.

J. W. GULICK.

**Ice Factory.**

ROME, GA., Jan. 20, 1886.

*Editor Manufacturers' Record:*

We will erect a six-ton ice factory, Boyle patent, at once. Ground purchased on bank of the Oostanaula river, opposite the City Hall building.

RUSHTON &amp; DIXON.

ROCKY DELL, NEAR TAZEWELL C. H., VA.,

January 18, 1886.

*Editor Manufacturers' Record:*

We were burned out on the 2d; loss about \$6,500, partially insured. We will rebuild as soon as practicable.

TYNES &amp; HANNA.

**Furniture Factory.**

JOHNSON CITY, TENN., Jan. 19, 1886.

*Editor Manufacturers' Record:*

We are putting up and just starting a furniture and hard wood factory, or cutting to order. Our factory is 70x30, 3 stories, with ell 17x40, 3 stories, besides lumber and other sheds.

AUSTIN &amp; CO.

**Tobacco Factory.**

WINSTON, N. C., Jan. 22, 1886.

*Editor Manufacturers' Record:*

I will manufacture smoking tobacco at this place.

W. T. GRAY.

MORGANTON, N. C., Jan. 19, 1886.

*Editor Manufacturers' Record:*

We have bought machinery for sash, blind and door factory.

ROSS &amp; FOSTER.

**Development of Cotton Culture in the Southern States After the Invention of the Cotton Gin.**

From an interesting article in the Southern Bivouac on the invention of the cotton gin, and the experience of Eli Whitney, the man who invented or improved it, we take the following:

When the last Georgia lawsuit had been adversely decided, Whitney, concluding there was nothing to be realized in the South from his great invention, and smarting under a sense of flagrant injustice, turned his back forever on our shores, settled in Connecticut, where he married, in 1807, a daughter of Judge Pierrepont Edwards, and devoted himself in future to the manufacture of firearms and filling government contracts, in which he was peculiarly successful.

He died at New Haven, Jan. 8, 1825, leaving behind a good name and a large fortune. And strangely enough this was acquired by the manufacture of instruments of warfare, destruction and death, and not by an invention conceived in the interests of, and so well calculated to promote peace, industry and prosperity.

But as the inventor and perfecter of the cotton gin, and not as the army contractor, will Whitney be remembered by posterity. And the effects of his invention, beginning simultaneously with its introduction, have extended without intermission to the present day, and will continue to exert their force indefinitely through future generations.

As the immediate result cotton bounded into the first place among textile materials, displacing wool, silk and flax, creating an enormous demand for labor, and greatly cheapening the cost of wearing apparel. Good clothing, no longer an article of luxury, was brought within the reach of the poorest, remunerative occupation afforded the hungry mechanic, and trade and commerce the world over given fresh impetus.

From 1780 to 1800 the imports of cotton into Great Britain had risen from 6,700,000 pounds to 56,000,000 pounds. In 1700 only 1,200,000 pounds were imported; thus, the increase for the first eighty years of the century was only 150 per cent., and for the next twenty over 1,000 per cent.

In 1792, before the construction of the gin the whole American cotton crop (sea island) amounted to only 138,328 pounds. In 1793, under the immediate stimulus of the gin, it had reached 487,600, principally uplands. In 1794 it amounted to 1,601,000; in 1795 to 6,000,000, and in 1800 to 18,000,000, rising in eight years from a valuation of \$30,000 to \$3,000,000.

English spinners saw light at last dawning upon them with the promise of a glorious day. Arkwright & Watt had already given them the machinery, and now Whitney, from across the sea, had furnished the material. Up went the big mills, one after the other, studding Lancashire and York and Nottingham with their smoke stacks, and awakening the echoes of the Derby hills with the music of their spindles. Now, at last, their future seemed assured. Now, at last, since cotton could be successfully cleaned, cotton could also be successfully raised in such vast quantities as to insure its being laid down at their doors as rapidly as they could consume it. And all England rejoiced accordingly, and all England had good cause to rejoice. In the South buoyancy and elasticity at

once displaced dependency and gloom. The tide of Western emigration was for the moment checked. No more lounging in the trade centers. Broomsedge and sassafras disappeared from the fields, and the new grounds smoked in the early spring, and the cheery song of the laborer amidst the fallen forest trees arose on the frosty air, as acre after acre of virgin soil was reclaimed to whiten in season with its tribute of snowy fleece.

Othello's occupation was "found." Henceforth in America cotton—and the darkey—reigned supreme.

By 1810 the crop had reached 93,000,000 pounds, worth \$15,000,000—a fivefold increase since 1800, while the population had increased only 30 per cent. At this period tobacco had ceased to be the staple crop of the South, all available slave labor having been transferred to cotton; for, as the exports of rice, the only other important crop raised in the South, had risen from 94,000 tierces in 1800 to 179,000 in 1810, the increase of cotton during that period must have been due to the transfer of labor from tobacco, and also to its importation. No wonder that the Guinea trade was brisk and remunerative during this decade—that New Bedford and Nantucket whaled no more, but poured their dusky freight upon the beach at Hilton Head, while Wilberforce, in frantic fury, impotently gnashed his teeth across the waters. During the next decade the increase in the cultivation of cotton was checked, as was all business, by the war with Great Britain—the crop in 1820 amounting to only 128,000,000 pounds. But the high prices following the war greatly stimulated its production. Tobacco, as before stated, was no longer cultivated as an article of export. Rice was still planted on the low, swampy lands along the coast, because they were unsuited to the production of cotton, and because rice was and still remains in itself a very profitable crop. But cotton absorbed the attention of every one, to the exclusion of all things else.

By this time New England mills were coming into prominence. For a long time after the invention of improved patent processes for spinning and weaving in England it was impossible to introduce them in this country, as the plans of machinery could not be passed through the British custom-houses; but this difficulty was at last surmounted, and American goods began to make their appearance. The consumption of cotton by New England mills had increased from 500 bales in 1800, to 90,000 in 1815, and their output amounted in value to \$24,000,000; notwithstanding which, the importation of British goods reached annually the sum of \$180,000,000, greatly checking the progress of American manufacture. But the tariff acts of 1824, 1826 and 1832, imposing an ad valorem duty 25 per cent. on imported goods, greatly encouraged and stimulated the manufacturer, and proved, indeed, a gold mine to the Southern planter.

With the mills of New England as well as those of Great Britain to feed, the South Atlantic States fairly "boomed" again. Immigrants flocked in from Virginia to engage in the cultivation of cotton, leaving their worn-out tobacco farms behind them as a heritage to their successors. New lands were purchased—and stolen—from the Indians. Negroes were brought by thousands from Maryland and Kentucky, while Pennsylvania and New Jersey sold out their few remaining slaves at a fine profit, and at once, by a most natural transaction, turned abolitionists. Every hand that could be spared from other employments, white or black, bond or free, male or female, was appropriated to this one culture. And so, by the year 1830, the cotton crop thus stimulated had reached 457,000,000 pounds, or 1,038,848 bales.

From 1830 to 1840 the pursuit of cotton planting amounted almost to madness. The settler, coming in from New Jersey or the shores of Narragansett, invested at once in

cotton lands. Merchants and professional men labored the harder with the prospect and inducement before them of laying by a sufficiency to purchase a plantation, upon which to retire and indulge forever after in laziness and competency. Even the dream and aspiration of the average city parson was a wealthy country widow with a thousand or so acres of good upland, securing whom and which he could bid farewell to pews and platitudes and spend the remainder of his days in watching the tender crown of the sprouting plant push through the moist, brown bed, and leaf and form and square and bloom and boll expand in season till the soft folds of snowy fibre enveloped in the fall the sere and withered stalk as with a garment. No exaggerated picture this—so great was the fascination by which King Cotton held in thrall his subjects.

And not only was the producer enriched, but cotton seemed to turn to gold in the hands of all who touched it. The Northern mills that manufactured, and the Northern bottoms that transported it, both came in for their share of the profits, greater proportionately, doubtless, after the employment at the ports of the hydraulic press, than that realized by the planter.

VERILY the vagaries of the intelligent compositor are past comprehension, and it is appalling to think of the amount of profanity he is responsible for. In our last week's issue he managed to elude the vigilance of the proof-reader with half a dozen of his diabolisms. In one case, for example, where we wrote that the Hall Duplex Steam Pump had of late been attracting much attention from experts in hydraulics, this highly intellectual individual made it read "experts in hydrants." Think of an "expert in hydrants!" Possibly though his logical brain connected "pumps" with "hydrants," and he naturally jumped to the conclusion that the man most likely to have been giving attention to the Hall Pump was an "expert in hydrants." At any rate he got badly mixed on "hydraulics," and we feel like suggesting the use of a Hall Duplex Pump and a couple of hydrants worked by an "expert in hydrants" to relieve him of water on the brain.

THE MANUFACTURERS' RECORD, of Baltimore, has put on a new and elegant outer garment and presents an appearance altogether handsome, genteel, tasteful and attractive. The MANUFACTURERS' RECORD may be compared to a smooth and polished mirror in which Southern prosperity is fully and faithfully reflected, or perhaps more properly to an engineer who measures each paragon in the march of an advancing and progressive people. The MANUFACTURERS' RECORD is abundantly worthy of the signal success which has marked every stage of its career, and we rejoice that it exhibits yet greater indications of future growth and prosperity.—The Sunny South, Atlanta, Ga.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.



### Condition of the Blast Furnaces of the United States January 1, 1886.

The condition of the blast furnaces of the United States on January 1, 1886, according to the Iron Age, was as follows:

Fuel.	In blast. Weekly No. capacity.	Out of blast. Weekly No. capacity.
Charcoal.....	57 7,804	169 16,678
Anthracite.....	104 29,811	117 25,518
Bituminous.....	114 54,199	106 40,508
Total.....	275 91,814	392 82,704

This shows a marked change since the first of December. At that time the record was as follows:

Fuel.	In blast. Weekly No. capacity.	Out of blast. Weekly No. capacity.
Charcoal.....	61 8,360	163 15,582
Anthracite.....	94 26,816	128 28,438
Bituminous.....	99 49,790	122 44,917
Total.....	254 84,966	413 88,937

Twenty-one new furnaces, on the whole, are in blast, divided as follows: 4 less charcoal, 10 more anthracite, and 15 more bituminous. The decrease in the capacity of the charcoal furnaces in blast is about 550 tons weekly, the increase in the capacity of the anthracite about 3,000, and of the bituminous some 4,400. As a rule, the furnaces now blowing in are not of as large capacity as some of those that have been in blast. The increase in anthracite furnaces has been in New York and the Lehigh and Schuylkill valleys in Pennsylvania; in bituminous stacks, chiefly in the Shenango and Mahoning valleys and the Hanging Rock region. Other furnaces are preparing to blow in, and it is probable that February will find an increase, but not as marked as the past two months.

Since the first of October there has been a decided increase. At that time 75 anthracite furnaces, with a capacity of 20,318 tons, were in blast. January 1 it had increased to 104 furnaces, with 29,811 tons capacity. The bituminous furnaces had increased in the same time from 88, with a capacity of 43,234 tons, to 114, with a capacity of 54,199 tons.

The number of anthracite and bituminous furnaces in blast at the beginning of each month of the last year and the first month of the present, together with their weekly capacity, is as follows:

	Anthracite. No. Capacity in blast. per week.	Bituminous. No. Capacity in blast. per week.
1885.		
January 1.....	86 21,564	82 36,812
February 1.....	81 21,189	87 46,553
March 1.....	86 22,889	94 45,774
April 1.....	82 21,704	90 45,955
May 1.....	80 20,729	95 43,397
June 1.....	79 19,834	94 44,498
July 1.....	81 20,444	92 43,945
August 1.....	77 20,530	86 44,845
September 1.....	78 20,190	88 42,663
October 1.....	75 20,318	88 43,234
November 1.....	86 24,270	89 44,101
December 1.....	94 26,816	99 49,790
1886.		
January 1.....	104 29,811	114 54,199

One year ago the condition of the furnaces and capacity were as follows:

Fuel.	In blast. Weekly No. capacity.	Out of blast. Weekly No. capacity.
Charcoal.....	68 8,371	159 15,941
Anthracite.....	86 21,564	135 28,500
Bituminous.....	82 36,812	141 35,812
Total.....	236 66,747	435 100,253

This shows a material increase during the year—18 anthracite furnaces and 32 bituminous. The year 1884 shows a reduction of 23 anthracite and 19 bituminous.

The relative condition of the blast-furnace industry for the past seven years is shown in the following condensed table of furnaces in and out of blast on the first days of January, 1880-1886:

	1880.	1881.	1882.	1883.	1884.	1885.	1886.
Charcoal.....	93	160	155	123	78	68	57
Anthracite.....	105	162	169	169	109	86	104
Bituminous.....	126	151	142	138	101	82	114
Total.....	324	473	466	430	288	236	275

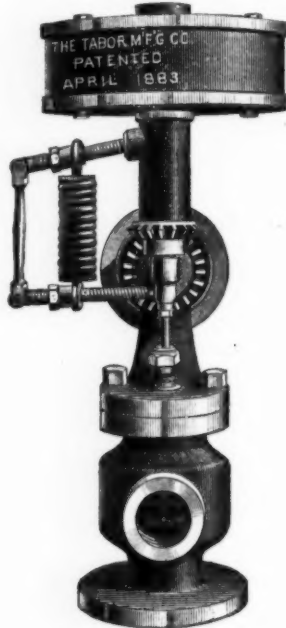
  

	1880.	1881.	1882.	1883.	1884.	1885.	1886.
Charcoal.....	146	112	117	128	169	159	169
Anthracite.....	67	76	76	64	124	135	117
Bituminous.....	80	68	78	88	125	141	106
Total.....	293	256	271	280	416	435	392

The Mecklenburg Iron Works, Charlotte, N. C., write us: "Work during the past year has been fair, and we look forward to having plenty to do in the one just beginning."

### The Tabor Steam Engine Governor.

This governor, manufactured by the Tabor Manufacturing Co., 111 and 113 Liberty street, New York, was designed by Harris Tabor, whose long experience in the manufacture of throttling and automatic engines has fitted him to deal with the difficulties in the regulation of steam engines. This governor was first applied to a few engines used for electric lighting, where well-known governors had failed to give the desired uniformity in speed, and the results were so satisfactory that the Tabor Manufacturing Co. was organized for the purpose of placing the governor on the market.



TABOR GOVERNOR.

The difficulty of getting a governor that will regulate the speed of an engine, within a reasonable percentage, under largely varying loads, and be free from a tendency to jump or race, has long been apparent. The close regulation required in engines driving electric light dynamos has done much to give prominence to this serious defect in throttling governors, and has resulted in creating a prejudice against the slide valve engine. In order to obtain anything like good regulation, it has become necessary to use an engine much too large for the work to be done, which means greater first cost and a smaller degree of steam economy.

The Tabor Governor was designed with a view to overcome the existing defects in the throttling governor, and to enable a slide valve engine to compete, in close regulation, with the best types of automatic engines. The results have been so satisfactory that the manufacturers express their willingness to put their governor in competition with any of the better class of automatics and guarantee equal uniformity of running.

The requirements of the portable and traction engine trade call for a governor wholly independent of gravity; the frequent and sudden shocks, due to rough roads, make it imperative that the governor weights shall be so arranged that any jar or change of position can in no way affect them, otherwise a sudden drop of the engine would tend to lower the weights and open the governor valve, thus giving the engine an impulse when not needed.

The Tabor is a spring governor, wholly independent of gravity; the weights act radially, and their centrifugal force is a uniform increase as they move outward. Motion is conveyed from the weights to the valve by two phosphor bronze bands, which pass under the pulleys and are attached to the governor stem. The centrifugal force, or resistance to the weights, is a single spiral spring

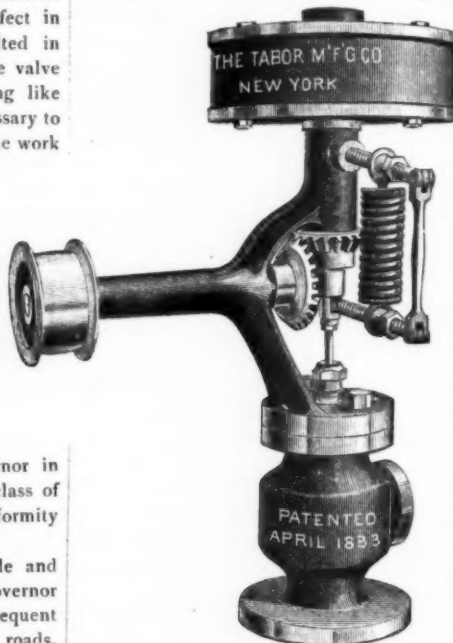
attached to the adjusting nuts on the speed levers. These levers, it will be seen, are set at an angle, and this angle, which is an important feature in the governor, is such that it gives the correct initial tension to the spring for all changes of speed. The speed of the engine may be readily changed, to the extent of 60%, while the engine is running, by simply moving the spring toward the governor when a higher speed is desired, or from the governor when a lower speed is needed.

The governor-stem is steel, large in diameter, with the lower end hardened; there is a hardened steel plate in the coupling upon which the governor-stem runs; these hardened steel surfaces are so large that there can be no appreciable wear. The valve has double openings and is made of the best steam metal; the bushes in the valve case are also made of the best steam metal, and both are proof against rust and the cutting action of the steam. The interchangeable system of manufacture is strictly followed. The governor is adapted to every type of stationary and portable engine. It is fitted with speed-adjuster, Sawyer's lever and automatic safety stop. Further particulars may be had from the manufacturers.

### Ores of North Carolina.

Mr. Charles G. Mann, writing from High Point, N. C., to the Chicago Mining Review, says:

There seems to prevail an idea out West that North Carolina produces only low grade ores, to judge from a number of letters received during the year expressing themselves to that effect. We have here, indeed, any amount of this class. Some of them have been worked merely for speculative purposes, four to six years ago, and run their course on the New York Mining Exchange, never to appear again. Others have been explored and opened with a view of mining them for revenue, which have, thus far given excellent results, as the Floover, producing five-dollar ore in an extremely hard blue slate, with a net revenue of \$6,000 to \$10,000 per month, which most likely will be increased considerably in the future, as the value of the ore is constantly im-



TABOR GOVERNOR.

proving in depth, and ranges now from eight to fifteen dollars per ton. The North State and the Russell mine produce ores worth from ten to twenty dollars, free gold, in unlimited quantities; the sulphurets of the former, however, go as high as \$56. A great many lodes of this class are lying dormant for the present, until quartz operators convince themselves that, with the prevailing low cost of reduction, they can do better here with a five to ten dollar ore than anywhere else with ores worth twenty to thirty dollars per ton.

There are, however, in the North Carolina

gold field, very rich veins, assaying from seventy-five to one hundred dollars and over. A sulphuret vein in Davidson county, two feet wide, opened but not worked, assays from twenty to thirty ounces per ton. In Moore county, I examined recently a newly opened six-foot vein, cropping out on several places for a length of four to five miles. The ore taken from a shaft 100 feet deep assays from \$75 to \$120 free gold, without a trace of sulphur. The matrix of this vein is a soft, milky quartzite, interlaced with thin laminae of manganese, giving it a darkish color; it amalgamates, however, very readily.

I have no doubt that the Steele mine in Montgomery county, not far from Russell, lately bought by parties from New York, will develop richly.

There are within a radius of fifteen miles from here, mostly along the railroad—seldom more than five miles distant from it—any number of auriferous sulphurets, worth from ten dollars and upwards per ton, partially opened but not worked, because our people are farmers and not miners, and if they were they could not realize money from these ores as they do out of their free-gold quartz or slates, with their Chilian mills. What these ores require are reduction works on a large scale, capable of working forty to sixty tons per day. There is an establishment of this kind, working the Mears chlorination patent near Salisbury, but some distance from the railroad, and only of the limited capacity of ten tons per day. Five years ago, a party established reduction works a few miles from Charlotte, but the untimely death of the principal metallurgist prevented the completion of the works. High Point offers every facility for this kind of metallurgical work. The Richmond & Danville Railroad, as mentioned above, leads to a number of auriferous sulphurets, and the new railroad, partially graded already, opens a new district, where I know several mines producing sulphurets worth from seventeen to fifty dollars per ton. Mines can be leased or bought at a low rate; wood and water are on hand, and the best Tennessee bituminous coal can be had for about four dollars per ton.

### Alabama and Pennsylvania Contrasted.

Iron and coal, in the hands of a live, enterprising people, have made Pennsylvania a State of great cities and growing towns, of vast manufacturing industries, of rich farmers, whose wealth comes from a home market.

Every town in Pennsylvania of any size is a manufacturing town. The people are divided up into farmers, manufacturers, laborers and professional people, and hence they have what Gen. Jackson suggested in his Coleman letter for the whole people of the United States, such a diversity of pursuits that it makes both producers and consumers; the farmer finds purchasers at home without paying transportation for all his spare produce. This is the reason the farm lands of Pennsylvania are worth \$100 per acre, while as good or better land in Alabama and Tennessee is worth \$10 per acre. Our people do not yet fully appreciate the value of a home market. A people depending upon a foreign market can only market, and hence they only produce, the staples; but a people who have a home market are encouraged to make market gardens and raise small fruits, thereby making the greatest profit on vegetables, fruits, etc.

If the people of Alabama will look at the facts, letting such gentlemen as my friend John T. Morgan—who is opposed to iron industries in Alabama because they put up the price of farm labor—go their own way, and act upon these facts, diversify their industries as all enterprising people have done, so as to give employment to all who will work, thereby keeping the money at home by a system of reciprocal interchange

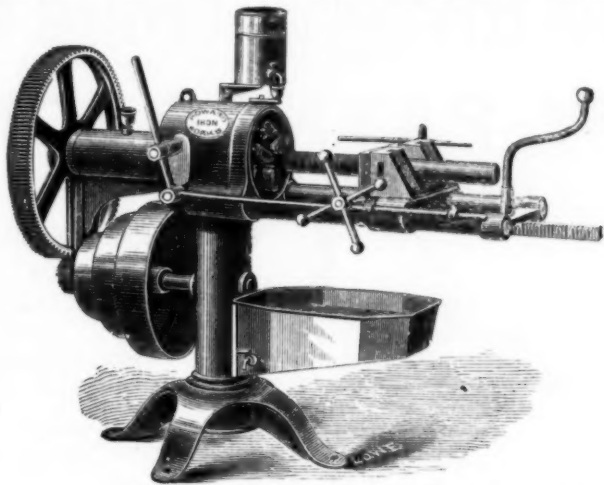


of commodities. Alabama will soon be known far and wide as among the most prosperous States in the union.

It is a matter of serious doubt whether any State in the union has equal advantages. The Western slope or Rocky Mountain States have great wealth in the precious metals, but they are gradually being exhausted. The New England States are immensely wealthy—a wealth made by manufacturing—manufacturing under the greatest difficulties—a rigid climate, a soil that would not produce bread without artificial aid—no coal, no iron, no cotton—all to be imported. And yet with these difficulties they are among the richest people on the globe—all by making what their neighbors were obliged to have, and what they had the enterprise to furnish.

Pennsylvania is the best illustration of what natural resources and enterprise combined will do. The land, including the coal and iron, is not equal to the land, coal and iron of Alabama, and yet in one case the land, including these minerals, is worth \$1,200,000,000, and in the other less than \$200,000,000. The city of Philadelphia manufactures in one year goods largely more in value than the whole State of Tennessee is worth. This is seemingly a big tale, but literally true.

The wealth of Pennsylvania comes from the coal and iron, the vast manufacturing which they have stimulated, and the lands which a home market has enhanced in value; and this, too, when the iron ore for making iron is brought mainly from other States, at a cost in transportation of several dollars per ton.—Nashville Union.



BOLT CUTTER AND NUT-TAPPING MACHINE.

### Bolt Cutter and Nut-Tapping Machine.

Schlenker's automatic revolving-die bolt cutter and nut-tapping machine is growing in popularity among practical machinists. Among the advantages claimed for it by the manufacturers are the following: The dies are opened automatically when the desired length of thread has been cut on the bolt, and are closed by the lever, or automatically, as shown in the cut of the machine. It can be changed from one size to another in less than a minute without removing a bolt or pin. It does not require skilled labor, but can be operated by any competent boy. The dies are arranged to open and close automatically, therefore do not require the constant attention of the operator. It is a very rapid worker, its capacity being from 3,500 to 4,000  $\frac{3}{8}$  bolt with  $1\frac{1}{2}$  inches of thread, per day—and larger bolts in proportion. Threads cut by these machines will not vary  $\frac{1}{32}$  thread in length on ten thousand bolts. The machines are simple in construction, very compact, and strongly built. It is adapted to cut right and left hand, V threads, square threads and coach screws,—will take in crooked as well as straight work, and cut any length of bolt.

The action of the dies in these bolt cutters is the same as a lathe tool, taking a clean chip, and leaving a strong, perfect thread, with one passage of the die over the bolt.

These machines are manufactured by the Howard Iron Works, Buffalo, N. Y.

MESSRS. J. F. HESSE & SON, cutlery and grinders, 36 N. Holliday street, Baltimore, to accommodate their growing business, have opened a warehouse at 301 Hanover street, where they will carry a full assortment of goods of their own make, and of firms they represent. They manufacture a line of cook and carving knives, concave razors, etc., and make a specialty of repairing and sharpening clipping machines. They have the only machine in the State that will grind these machines perfectly. They have a letter from the manufacturers of them, of which the following is a copy:

"Messrs. J. F. Hesse & Son—We have seen your work in repairing and grinding clipping machines, and would say that you are the only firm south of Philadelphia who can do this work so as not to injure the clipper and have it cut as well as new."

ELSEWHERE will be found the advertisement of the Mecklenburg Iron Works, Charlotte, N. C., to which we invite the attention of persons contemplating the purchase of any sort of machinery. The Mecklenburg Iron Works build engines, boilers, saw mills, grist mills, stamp mills, crushers, cornish pumps, cotton presses, water wheels, shafting, etc. Their specialty is the manufacture of mining machinery.

THE Ashcroft Manufacturing Co., 111 Liberty street, New York, announce that they have secured the services of Mr. Geo. B. Ewing, formerly with the Buckeye Iron & Brass Works, and a gentleman extensively and favorably known to the trade.

### Important to Southerners.

Persons arriving in New York via Cortlandt Street Ferry, by taking the 6th Avenue Elevated Train, corner Church and Cortlandt streets, can reach the Grand Union Hotel in 42d street, opposite Grand Central Depot, in twenty minutes, and save \$3 carriage hire. If en route to Saratoga or other summer resorts via Grand Central Depot, all baggage will be transferred from hotel to this depot free. 600 elegantly furnished rooms, \$1 and upwards per day. Restaurant the best and cheapest in the city. Families can live better for less money at this hotel than at any other first-class hotel in the city. †

THE most successful manufacturers of sportsmen's clothing in this country have lately enlarged their business to include clothing for civil engineers, miners, ranchmen, and other uses where common garments are insufficient. The materials used are corduroy, moleskin, mackintosh, canvas, mackinaw, leather, &c. If you are interested, write for a catalogue to Upthegrove & McLellan, Valparaiso, Ind., mentioning the MANUFACTURERS' RECORD. †

A GOOD turn is done our readers when we commend the American Hoase, Boston. The judicious management which has rendered it so popular in the past is still continued, and no effort is spared to add to the comfort and convenience of guests. †

T. M. Parker, Steel Stamps, Stencils, Hartford, Ct.

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30 H. P. (9x12) Det. Engine and Tubular Stationary Boiler.....\$550  
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Without political bias or alliances, it seeks to subordinate legislation to the material interests of the people. It favors Freedom in Banking, Freedom in Commerce and Freedom in corporations; demanding for the individual and the association the largest liberty to buy or to sell, to lend or to borrow, anywhere and on any just terms and conditions without artificial restriction.

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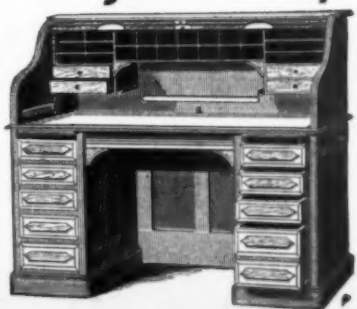
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1 16x24 Girder Bed; Balance Slide Valve, new.  
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1 30x48 Box Bed, second-hand.  
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1 16x24 Putnam Automatic Cut-off, second-hand.  
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1 5x8 Double Cylinder with Boiler and Pump, on Base, new.  
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1 Upright, 36 in x 5 ft 6 in. 1 10-in flue, F box, new  
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1 Portable Locomotive,  
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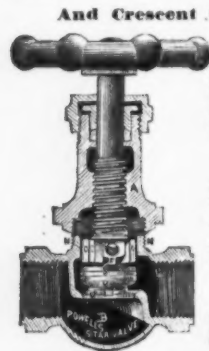
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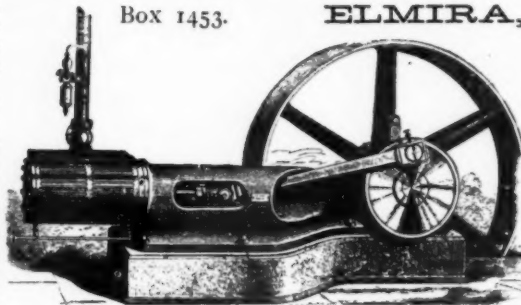
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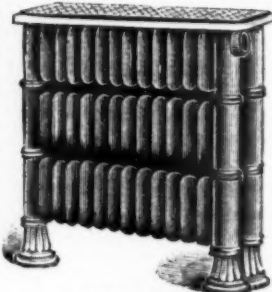
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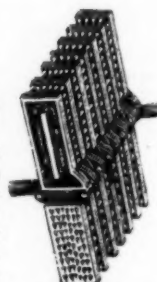
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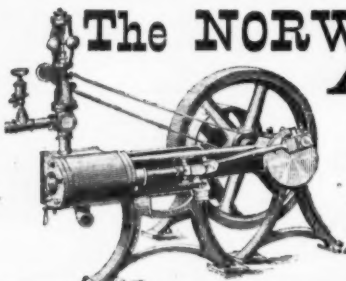
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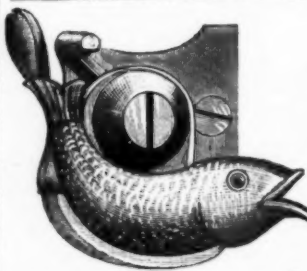
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## FOR SALE, Real Estate & Business in Florida, IN AND ABOUT LONGWOOD, ORANGE COUNTY.

(Each of the pieces described below has been critically examined and reported on by an Expert Agent of this office, at the expense of the undersigned, with intent to secure full and truthful representation, and to impartially serve seller and buyer. The original report over signature of the examiner, and with our guarantee, can be consulted on application, and the address of the examiner will be furnished to any person desiring assurance of his competency, or to question him directly.)

Longwood is a town of 40 acres and about 200 inhabitants in South Florida, 200 miles south from Jacksonville. It lies on the spine of the peninsula. The South Florida Railroad passes through the town on the line to Kissimmee, the present Southern terminus. There is railroad connection from Longwood, East and West, to respectively, the Atlantic coast via Sanford, and to the Gulf coast at Tampa. The neighboring country is comparatively thickly settled, the County of Orange having increased its population from 6,000 in 1880 to 16,000 in 1885. Its elevation and character of soil, draining off both East and West, secure unusual healthfulness, attested by experience, and by the appearance of the people.

### SAW MILL AND FACTORY,

PLANING DOOR, SASH AND BLINDS, ETC., ETC.,

Substantially built on town lot, 200 by 250 feet, and connected by its own tramway with South Florida Railroad. Saw mill has engine of 35 horse-power, and capacity of 15 M feet lumber daily. It is run day and night through much of the year. The factory has engine of 75 horse power, working 80 feet of main shafting, running 20 different planers, moulders, saws, and other wood-shaping machinery. The saw mill and factory employ, on an average, 50 mechanics, with a monthly pay roll of \$3,000. Aggregate salary of office force is \$5,000 per annum. Net profits since March 1st, 1884, have averaged \$22,500. Estimated profits for 1886, \$30,000. The business is now handling over 40 building contracts, aggregating in amount \$58,000, and it controls, practically, the building interests of the Southern Florida region. The figures given are from inspection of the books, and from outside inquiry. The plant comprises building, machinery, land, accessories, mules, tram-cars, wagons, log carts, etc., besides separate house in Longwood, and 2 lots in Sanford.—PRICE \$23,000.

With plant, there may be purchased contracts on hand, due bills for sales and deliveries, amounting December, 1885, to about \$15,000; also stock on hand of building materials, etc., (\$7,500 in December, 1885,) at cost price as inventoried at date of sale.

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Lot and buildings (store and warehouse), cost \$5,000, with a rapidly increasing trade, that paid \$8,000 net profit for the year 1885.—PRICE \$7,000. Stock of goods (\$15,000 in December, 1885) will be sold at cost price, as inventoried at date of sale of above; also current accounts due as verified.

### RAILWAY,

10 miles long, from Longwood to St. John's river, at a point north from Sanford, commanding independent and shorter connection with the river, securing a long term of future superior timber supply, and controlling the fast-growing trade of a remarkably progressive section of country—the business of which must of necessity be with Longwood. The holder of this property owns the railroad charter, with about 4 miles of road in operation, and 5 miles more of rails.—PRICE, AS IN ORDER AND RUNNING DEC., 1885, \$4,000.

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The gentleman offering the above properties, through the undersigned, is an European, called from his Florida possessions by important interests of permanent character at home. The prices named are pronounced reasonable by the examiner, and the business offered is probably the most paying one, with the largest future in South Florida.

The five pieces may be purchased in one lot at a discount of about 5% on the aggregate amount.

A searching scrutiny is invited of the statements herein submitted with care and the most impartial intention. Visits from responsible applicants, with view to buy on personal certification of the offering, will be liberally facilitated.

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By Order,

L. R. SMOOT, Secretary.

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By Order,

A. ROSS, General Manager.

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PRETTIEST DIRECT RADIATION.

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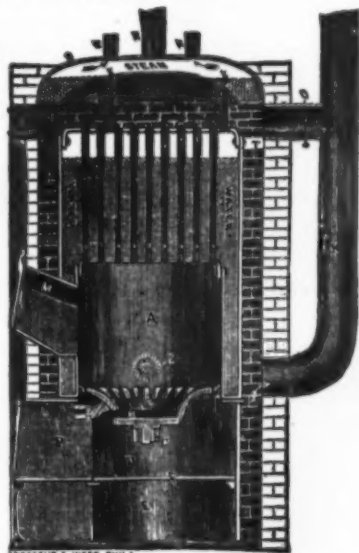
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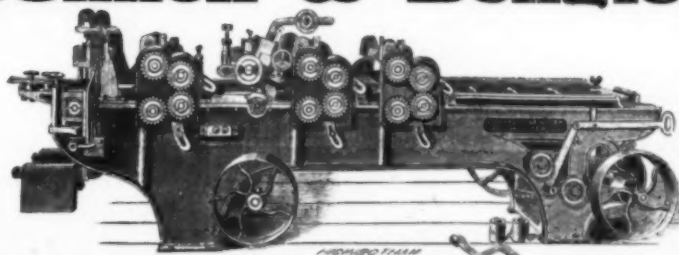
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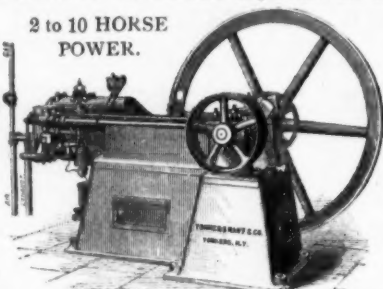
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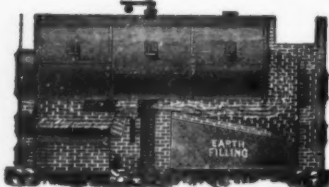
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Economy of Fuel, with increased capacity of Steam Power. Like the Siemens Process of Making Steel, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.

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Eagle & Phenix Mfg. Company, Columbus, Ga. Anniston Mfg. Co., Anniston Ala. J. P. King Mfg. Co., Augusta, Ga. Rose Mining Co., Charleston, S. C. Maryland Pavement Co., Baltimore, Md. Brush Electric Light Co., Baltimore, Md. Ettrick, Matocca and Battersea Mfg. Co's., Petersburg, Va. Rasin Fertilizing Co., Baltimore, Md. Tanner & Delaney Engine Co., Richmond, Va. Sibley Mills, Augusta, Ga.

Graniteville Mfg. Co., Graniteville, S. C. Charleston Bagging Co., Charleston, S. C. P. H. Mayo & Bros., Richmond, Va. Phosphate Mining Co., Beaufort, S. C. Brush Swan Electric Light Co., Norfolk, Va. Columbus Ice & Refrigerator Co., Columbus, Ga. Lenoir Manufacturing Co., Lenoir, East Tennessee. Vanceuse Mill, Graniteville, S. C.

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And Nut Tapping Machines

In use in the principal Railroad and Machine shops in the Country.

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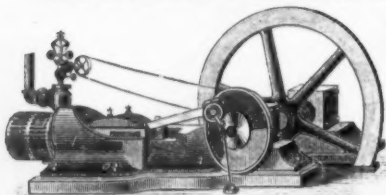
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Manufacturers of COVERT'S Celebrated Harness Snaps, Swivel Snaps, Open Eye Bit and Chain Snaps, Snap and Thimble for Horse and Cattle Ties; ROPE GOODS, consisting of Web and Rope, Halters, Rope Horse and Cattle Ties, Web Horse Ties, Halter Leads, Driving Reins, Weight Cords, Hammock Ropes, Hitching Cords, Lariat Tethers and Picket Pins. Also, Leather Horse Ties, Etc. Breast Chains, Heel Chains, Chain Cow Ties, Halter Chains, Martingale Chains, Rein Chains, Post Chains, Butt Chains, Back or Cart Chains, Log Chains, Stake Chains, Trace Chains. Also, STUD, CABLE AND COIL CHAIN. CHAINS OF ALL KINDS MADE FROM SAMPLE OR DRAWING.

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Cold-Punched Square and Hexagon Nuts.

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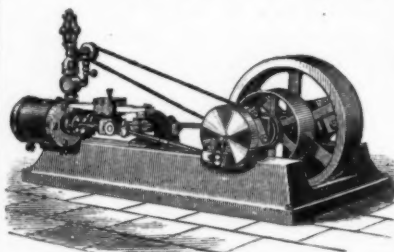
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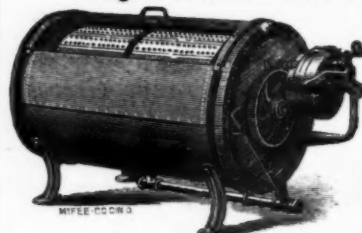
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Estimates furnished. Write for Gear and Price-Lists A.





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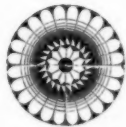
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Whole Plant.

GET THE BEST AT FIRST AND AVOID THE  
EXPENSE AND DELAY OF CHANGING  
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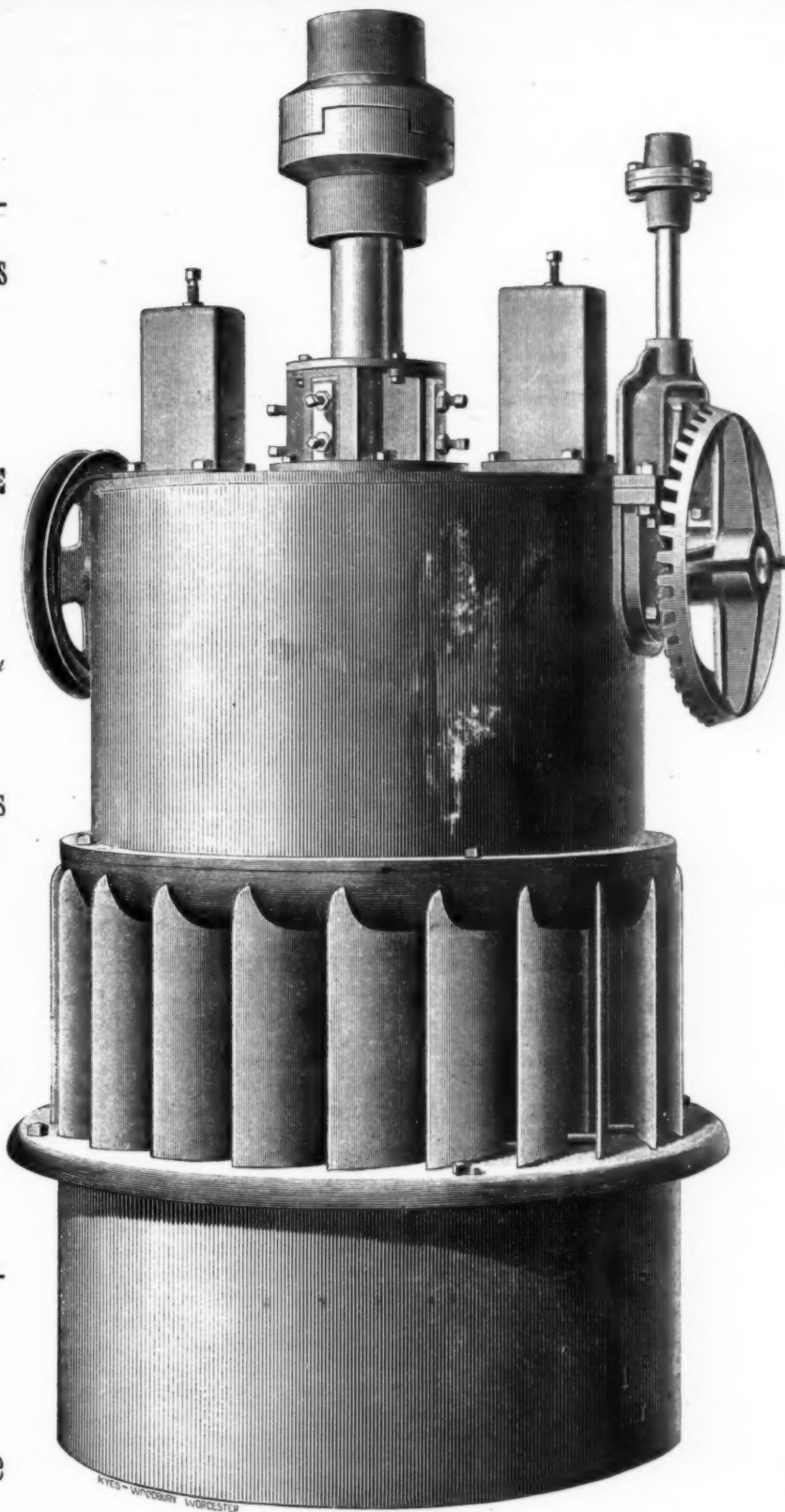
A Good Wheel Will Serve You  
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THE BEST IS THE CHEAPEST. IT DOES  
MORE WORK, LASTS LONGER, AND  
COSTS NO MORE FOR GEARS  
AND SETTING THAN A  
COMMON WHEEL.

The Hercules Gives the Most Power for its Size  
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from Full to One-Half Gate of  
any Wheel Ever Made.



Below we give the Names of the



When it is considered that  
the HOLYOKE WATER  
POWER COMPANY test  
every wheel that is put in in  
Holyoke, and use the wheels  
as a gauge or meter for mea-  
suring the water to the  
manufacturers and charge  
them for the actual quantity  
of water used, it will be seen  
that the HERCULES stands  
first in the estimation of  
Holyoke manufacturers as an  
economical wheel in the use  
of water for the amount of  
power produced. The HER-  
CULES, we believe, is the  
only wheel of which all the  
sizes, both right and left hand,  
have been tested, some of  
them many times, and all  
brought to the standard of  
excellence which has been  
set by the makers and de-  
manded by their customers.



Mills in Holyoke, Mass., using

## THE HERCULES WATER WHEELS

THE HEAD OF WATER ON THE WHEELS AND THE POWER FURNISHED BY THE HOLYOKE WATER POWER CO.:

	Diam. in inches.	Head on Wheels.	Horse Power.	Date of Setting.		Diam. in inches.	Head on Wheels.	Horse Power.	Date of Setting.		Diam. in inches.	Head on Wheels.	Horse Power.	Date of Setting.
Albion Paper Company.....	39	25	255	1878	Geo. R. Dickinson Paper Company...	36	19	170	1883	The Massasoit Paper Company.....	39	19	197	1883
Albion Paper Company.....	34	25	115	1883	Holyoke Water Power Company.....	30	19	115	1883	Union Paper Company.....	45	20	285	1883
Albion Paper Company.....	45	27	445	1880	Holyoke Warp Company.....	48	11	130	1879	Union Paper Company.....	30	20	125	1883
Albion Paper Company.....	30	27	200	1883	Massachusetts Screw Company.....	27	19	90	1882	Valley Paper Company.....	42	27	390	1883
Chemical Paper Company.....	4-30	23	620	1880	Merrick Thread Company.....	48	12	150	1880	Waukegan Paper Company.....	42	18	210	1879
Chemical Paper Company.....	5-18	23	275	1880	Newton Paper Company.....	48	21	350	1880	Waukegan Paper Company.....	33	18	130	1883
Chemical Paper Company.....	33	23	185	1880	Nonotuck Paper Company.....	48	20	370	1881	Whiting Paper Company.....	27	18	85	1883
Chemical Paper Company.....	42	23	305	1880	Nonotuck Paper Company.....	27	20	175	1881	Whiting Paper Company.....	18	15	30	1880
Chemical Paper Company.....	2-48	23	800	1880	Riverside Paper Company.....	48	20	325	1880	Winona Paper Company.....	48	28	540	1880
Connecticut River Pulp Company....	36	18	155	1881	Syms & Dudley Paper Company.....	45	20	495	1881	Winona Paper Company.....	24	28	135	1880
Crocker Paper Company.....	39	25	300	1883	Syms & Dudley Paper Company.....	24	20	140	1881					
Farr Alpaca Company.....	48	19	300	1878	Springfield Blanket Company.....	36	18	155	1877					
Franklin Paper Company.....	39	20	215	1883	The Beebe & Holbrook Paper Co....	24	19	75	1884					
Geo. R. Dickinson Paper Company....	2-45	19	520	1883										
	</													

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nal attention. Excellent facilities for obtaining foreign patents. *All business before Patent Office hastened and aided by nearness to it.* Opinions; searches; suits in court; interferences. Write (Box 220) for references, fees, information.



speculative fever has subsided to a marked degree. Prices are firm. We quote as prices current cash on cars or wharf here:

FOUNDRY.	Cash.
Hanging Rock Charcoal, No. 1.....	\$18 50@19 50
Southern Charcoal " " " ".....	17 50@18 50
Strong Neutral Coke, " " " ".....	16 50@17 50
American Scotch, " " " ".....	17 00@18 00

GREY FORGE.	Cash.
Neutral Coke.....	15 50@16 00
Cold Short.....	15 00@16 00

CAR WHEEL AND MALLEABLE.	Cash.
Hanging Rock, strictly cold blast.....	25 00@26 00
Hanging Rock, strictly warm blast.....	21 00@22 50
"Cranberry," N. Carolina Warm Blast.....	22 50@23 75
Amherst and Virginia Warm Blast.....	20 50@22 00
Lake Superior Charcoal, all grades.....	20 00@22 00

### Louisville Iron Market.

Specially reported by W. B. BELKNAP & Co., Nails, Wire, Iron, Hardware, Carriage and Wagon Goods.

LOUISVILLE, KY., Jan. 18, 1886.

The absorbing topic for the past week has been weather, rather than work and observation. Something about every spell of weather has to be exceptional to make it interesting. In this case the oldest inhabitants pronounced it the longest continued low temperature that has been recorded here.

Bar iron has maintained its late advance with firmness. A determination seems to have settled on the manufacturers not to waste their time and resources further in making and selling goods for nothing.

Hoops and bands.—These are very firm at an advance of about \$2.00 per ton over the lowest price reached.

Sheet.—There is a somewhat better selling in sheet, and large orders have been refused at prices at which smaller ones were taken some 60 or 90 days ago.

Steel.—The advance consequent upon the meeting of the steel manufacturers last week in Pittsburgh is well received by the trade at large.

Tire, round machinery, toe calk, plow slabs and shapers have all advanced fully 1/2 cents per pound. The demand for all these goods is fair, and promises to be better as the season progresses.

Nails are firm at present prices. There is a larger demand for these than one would imagine, during even the extreme weather. Navigation in the river has been suspended, since a local advance is asked to cover the difference in freight.

Horse shoes.—An advance has taken place in Burden shoes, consequent upon an increased rate of freight from Troy to Western points. Other shoes are unchanged.

Wire.—The advance by the manufacturers in session in New York on the 13th will, we presume, finish the booming for the present, at least, from that end of the line.

Barbed wire.—Business is rendered more or less interesting by the cross-fire circulars from licensees and moonshiners. The latter become more audacious as the former grow more positive. Meanwhile we fancy the trade is pretty generally taking mainly licensed wire. We quote:

Bar Iron.....	1 80 @ 1 90
Crescent Steel.....	10 @ 1 10
Plow Steel slabs.....	3 50 @ 4 00
No. 27 Sheet.....	3 10 @ 3 20
Galvanized sheet, best.....	50 @ 55
Galvanized Iowa bar wire.....	4 75 @
Burden Shoes.....	4 00 @ 4 10
Junata Shoes.....	3 70 @ 3 75
Carriage Bolts.....	75 @ 80
Steel nails.....	2 70 @ 2 80
Iron Nails.....	2 00 @ 2 10
Rope, Sisal.....	8 @ 8 1/2
Rope, Manila.....	12 1/2 @ 14
Screws, American Screw Co's list.....	75 @ 80
Axes.....	6 50 @ 6 75
Cross cut saws, wide, per foot.....	26 @ 36cts.
Cross cut saws, narrow, per foot.....	21 @ 23cts.

Specially reported by Geo. H. HULL & Co., Commission Merchants for the sale of Hot and Cold Blast Pig Iron.

LOUISVILLE, KY., Jan. 18, 1886.

The market for pig iron is even firmer than at the date of our last report. Nearly all the Southern furnaces have withdrawn from the market, and decline to make any further sales until they have made more progress with their deliveries. Car wheel irons have stiffened up, and are held one or two dollars higher. Large sales of wheel

irons have been made at prices nearly four dollars per ton higher than the same brands were sold for three months ago. We quote for cash as below:

PIG IRON.	Cash.
Southern Coke, No. 1 Foundry.....	\$18 00@18 50
" " " " " ".....	17 00@17 50
" " " " " ".....	16 50@17 00
Hanging Rock Coke, No. 1 Foundry.....	18 00@18 50
" " " " " ".....	19 00@20 00
Southern Charcoal, No. 1 Foundry.....	18 00@18 50
Silver Gray, different grades.....	16 50@17 00
Southern Coke, No. 1 Mill, Neutral.....	16 00@16 50
" " " " " ".....	15 00@15 50
" " " " " ".....	15 50@16 00
Southern Charcoal, No. 1 Mill.....	16 50@17 00
White and Mottled, different grades.....	13 00@13 50
Southern Car Wheel, standard brands.....	24 00@25 00
" " " " " ".....	25 00@26 00
Hanging Rock Cold Blast.....	25 00@27 00
" " " " " ".....	19 00@21 00

### Chattanooga Iron Market.

Specially reported by LOWE & TUCKER, Brokers and Commission.

CHATTANOOGA, TENN., Jan. 18, 1886.

The past week has been the coldest ever experienced in the South. Such has been the severity of the weather that it has caused the stoppage of nearly all the manufacturing establishments, including, of course, the foundries, which have done very little business for the last ten days. General business is dull, and will continue so until there is a change of the weather, although the foundries anticipate a good trade as soon as the season opens.

There is no change in pig iron, which continues in good demand, at rates that have been in vogue for the last month. There is no prospect of a decline, and many anticipate another advance within the next thirty days. We continue quotations same as last:

No. 1 Foundry.....	\$15 50 @ 16 50
No. 2 Foundry.....	14 50 @ 15 50
American Scotch.....	14 50 @ 15 50
Gray Forge.....	13 00 @ 14 00
Car-Wheel Iron.....	23 00 @ 25 00
Ores, Red and Brown.....	1 50 @ 2 25
Furnace Coke.....	2 00 @ 2 30
Nails, car-load lots, 30 days.....	— @ —
Bar Iron, per 100 lb.....	— @ 65
Old Rails.....	— @ 18 50
Old Wheels.....	— @ 14 50
Wrought Scrap, No. 1.....	— @ 60
" " " " " ".....	— @ 50
Cotton Tie Clippings.....	— @ —
Cast Scrap.....	— @ —
Railroad Splices.....	— @ 1 75
Railroad spikes.....	— @ 2 00
Light Steel Rails, long ton.....	— @ —
Barb wire—Cambridge link.....	— @ —
Barb wire—four point galvanized.....	— @ —
Barb wire.....	— @ —

### St. Louis Iron Market.

Specially reported by W. H. SHIELDS, Pig Iron and Iron Ore, No. 305 Olive Street.

ST. LOUIS, Jan. 18, 1886.

This market is fairly active, with considerable inquiry. There is little disposition by furnacemen to sell for future delivery, even at the advance, which is fully maintained. I quote nominally as follows:

HOT-BLAST CHARCOAL.	Cash.
Missouri.....	\$17 50@18 50
Southern.....	18 50@19 50
Ohio.....	— @ —
COKE AND COAL.	Cash.
Missouri.....	17 50@18 50
Southern.....	17 50@18 50
American Scotch.....	18 00@21 00
MILL IRONS.	Cash.
Missouri.....	16 00@17 00
Southern.....	16 00@16 50
CAR-WHEEL AND MALLEABLE IRON.	Cash.
Southern.....	23 00@25 00
Lake Superior.....	21 00@24 00
MISCELLANEOUS.	Cash.
Old Rails.....	21 50@22 00
Old Wheels.....	16 00@17 00
Connellsville Coke, East St. Louis.....	5 30@—

### TRADE NOTES.

MESSRS. LOCKWOOD, GREENE & Co., mill engineers, of Providence, R. I., are engaged to make to make the plans for the rebuilding and rearrangement of the Washington Mills, Lawrence, Mass.

MR MERWIN MCKAIG, Cumberland, Md., is arranging to run his shafting department, day and night, in order to keep up with his orders.

MESSRS. LOCKWOOD, GREENE & Co., mill engineers, of Providence, R. I., are at work upon the plans for the new mill to be erected in Newark, N. J., by Messrs. Marshall & Co., of Leeds, England, in connection with the Clark Thread Co., of Newark.

## STANDARD TOOL COMPANY

MANUFACTURERS OF

### STRAIGHT LIP INCREASE Twist Drills

Of Every Description.

SOCKETS, CHUCKS, SCREW  
DRIVER BITS.

Special Drills  
to Order.

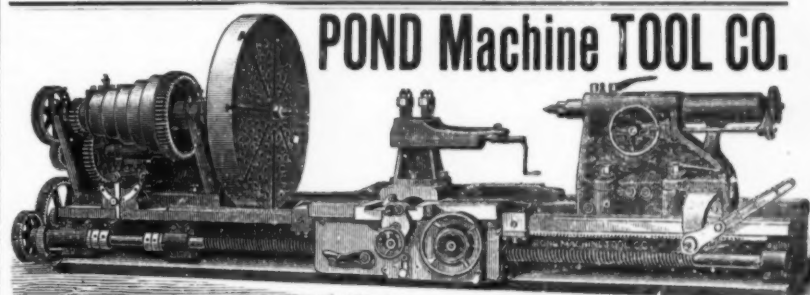


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Send Drawings and Specifications.

CLEVELAND, OHIO.



SUCCESSORS TO DAVID W. POND.

### Manufacturers of IRON-WORKING MACHINERY, Worcester, Mass.

Special Railroad Tools, Lathes, Planers, Upright and Radial Drills, Toring Mills, Gear Cutters, Milling Machines, Patent Shafting Lathes, Hand Punches and Shears, Planer Chucks. Special machinery in great variety. Estimates furnished. Send for catalogue.

## BRASS!

Roll, Sheet and Platers' Brass

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The most reliable and  
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The Recognized Organ of Southern Agriculture and Industrial Progress of the South. Farmers, Lawyers and Business Men Read It.

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"We have been astonished at the wide range from which inquiries have come to us, referring to the advertisement of our Blue Grass sulky Plow in THE SOUTHERN CULTIVATOR. Letters have come to us from all the Southern States, from the Carolinas round to Texas. We could not have had a better proof of the extent of your circulation. Let us know what your charge is to be for three months' insertion of the advertisement. How much for four months? We shall hope to run other of our improved implements for cotton culture in your columns, if we can from present 'ad.' as are encouraging. Truly, etc., THOS. MEIKLE & Co., Louisville, Ky."

"CULTIVATOR PUBLISHING CO., ATLANTA, GA.—An infringement on our machine having appeared, it is necessary to change my advertisement in the CULTIVATOR. Enclosed please find copy, which insert in place of the one now appearing. I can say that I do not believe that there is an advertising medium in the South that could accomplish the same result for its patrons in five insertions as THE CULTIVATOR will in one. With many thanks for your many kindnesses to me, I am, very truly, GEO. T. BELTON, Gen. Agent Taylor & Cox Steam Fire Engine & Mill Co., Belton, S. C."

THE SOUTHERN CULTIVATOR is the oldest and now the handsomest Agricultural Journal in the South. By recent purchases it combines "The Dixie Farmer," Atlanta, Ga.; "The Plantation," Montgomery, Ala.; "The Rural Sun," Nashville, Tenn.; "The Southern Farmers' Monthly," Savannah, Ga., and unites the patrons of these with its own large list of subscribers. THE SOUTHERN CULTIVATOR and "The Southern World," one year, both papers, \$1.75. Sample copies free.

STILL ANOTHER. AS AN ADVERTISING MEDIUM.

Since the receipt of the above from Thos. Meikle & Co., we are in receipt of another under date of August 3d. "Our advertisement in THE SOUTHERN CULTIVATOR is bearing abundant fruit, and we inclose you a letter from Kelleyville, Texas, as a sample of the many we are receiving due to THE CULTIVATOR. As the writer of the letter is unknown to us, and his communication unsolicited, it carries the greater weight."

AS AN EDUCATOR.

Since becoming familiar with your Magazine, we are more and more struck with its merits as an educator for the Southern planting interest and medium of communicating with the same. We know of no Agricultural Journal that combine so much sound scientific information with so much practical good sense. THOS. MEIKLE & Co., Louisville, Ky.

Sample Copies Free.

JAS. P. HARRISON, Business Manager,

Drawer 8.

ATLANTA, GA.

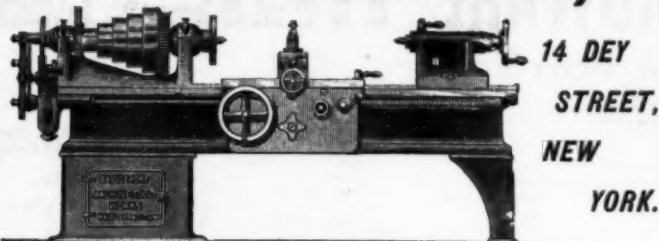
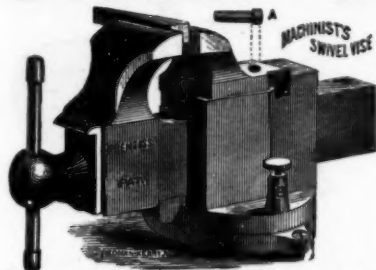






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Machine Tool  
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**IRON WORKING MACHINERY.****Prentiss' & Patent Vises.**

Adjustable Jaw.  
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CANNOT GET OUT OF ORDER.  
Cheapest and Best Vises for Railroad Shops, Ma-  
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"Peerless" (Swivel Jaw) Pipe Grip.  
Every Part Interchangeable.  
CAN BE USED ON ANY VISE.

For Sale by the Trade.

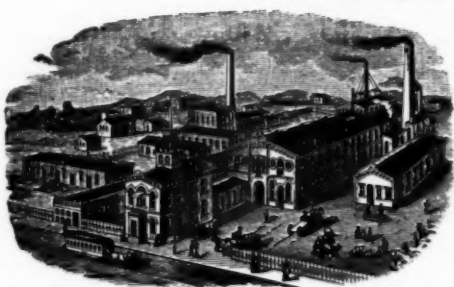
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**Ludlow Valve Manfg. Co.**

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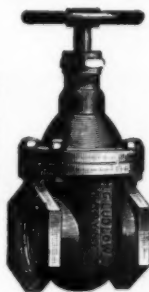
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—TROY, N. Y.—



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Double and Single Gate, 1/4 inch to  
48 inch—outside and inside  
Screws, indicators, etc., for  
Gas, Water, Steam, Oil.  
Send for Circular.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.

**J. STEVENS & CO.,**

P. O. BOX 860.

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**FINE MACHINIST TOOLS**

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**TIRES and AXLES**

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CRUCIBLE AND OPEN HEARTH STEEL.

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Engineers and Machinists, PHILADELPHIA, PA.

**Improved Machine Tools for Working Iron and Steel.**

SHAFTING, PULLEYS, HANGERS, Etc., for Transmitting Power.  
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**FIXED NOZZLE AUTOMATIC INJECTOR OF 1885.**

Either a lifter or non-lifter; no extra valves or fittings required; tubes can be removed without disturbing  
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Descriptive pamphlets and prices furnished on application to

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**TABOR STEAM ENGINE GOVERNOR**

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WILL REGULATE AS CLOSELY AS THE BEST AUTOMATIC  
CUT-OFF ENGINE.

Perfectly adapted to every type of Stationary and Portable Engine.  
Fitted with speed adjuster, Sawyer's Lever and  
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**SIMPLE, SENSITIVE AND DURABLE.**

All Parts Interchangeable.

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**BACON** Winding Engines,  
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"Mining Plants," Concentrating Works, and Dredg-  
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FAIRBANKS & CO., Agents,

Philadelphia, Pa.  
Pittsburgh, Pa.  
Buffalo, N. Y.

References: { Croton Magnetic Iron Mines, Brewster's, N. Y.  
Crown Point Iron Co., Crown Point, N. Y.  
Belvidere Iron Co., 52 Broadway, N. Y.  
Sea Island Chemical Co., Beaufort, S. C.

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Steam user and Engineer,

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**THE BABCOCK & WILCOX CO.,**

Manufacturers of

**WATER-TUBE BOILERS,**

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Pipe Cutting and  
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BEWARE OF IMITATIONS.  
None genuine without our Trade  
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STEAM AND GAS FITTERS'

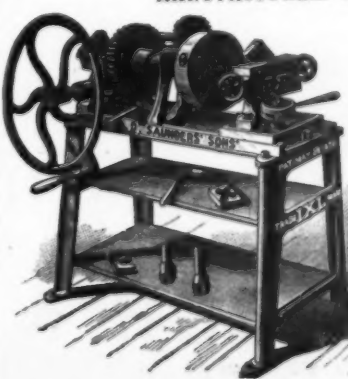
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For Pipe Mill Use a Specialty.

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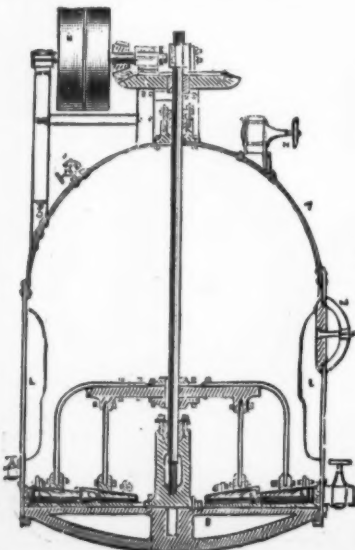
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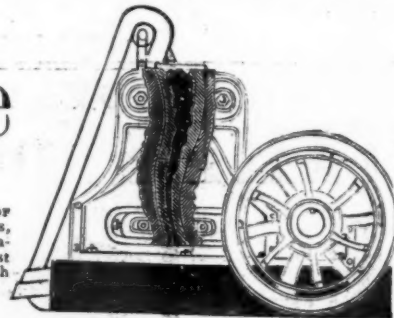
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## Disintegrating Machine

The Only Method for Preparing the Ore for Amalgamation.

Disintegrating, Decomposing and Desulphurizing the ore under a HIGH TEMPERATURE and PRESSURE OF STEAM HEAT, with chemical action and attrition, dissolves and breaks up the chemical combination in the ores, individualizing, cleaning and separating the atoms of metal from the gangue, perfectly freeing them for amalgamation in combination with the MEECH AMALGAMATION MACHINE and process, (being the greatest combination of Amalgamation known,) will successfully extract 90 per cent. of the metal from rebellious ores, such as Sulphurets, Sulphates, Sulphides, Chlorides, Bromides, Oxides, Tellurides, &c.

We desire business correspondents in every mining district in the United States.



### THE MEECH CRUSHER AND PULVERIZER.

This Machine will CRUSH AND PULVERIZE GOLD AND SILVER ORES to 20, 40, and 60 mesh fine, and from 20, 40 and 60 tons per day. The principles of this machine, making it superior to all others, are the peculiar concave and convex shape of the jaws, with concave and convex projections, which breaks, crumbles, stamps and pulverizes the ore with less power, wear and tear, than any other machine. MANUFACTURED BY

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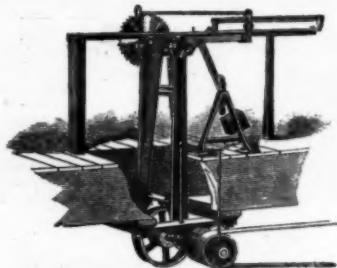
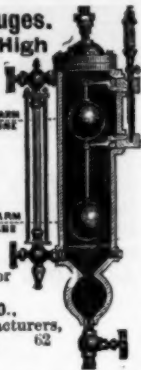


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Co's "Standard".....dis 40 % Romer's.....dis 25&40 % Conestoga.....dis 80 & 10 % Scandinavian, "Norwich".....dis 50&10 % Nimick & Brittan's Burglar-Proof Locks.....dis 50&2 % <b>MALLETS.</b> Penfield Block Co., Apple, Hickory and Lignumvite.....dis 30 % <b>MEAT CUTTERS.</b> Dixon's (P. S. & W.) Nos. 1 2 3 4..... 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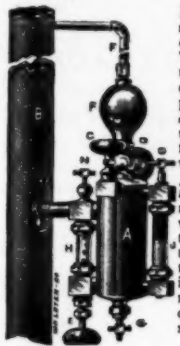
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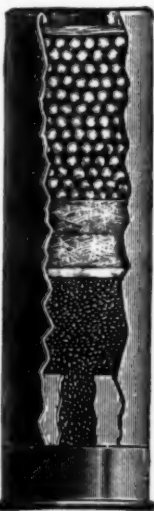
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FOR PARTICULARS, ADDRESS,

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These brushes are made from fibres only. Strongly secured by heavy wire; stock laid in grooves full length of block. **STRONGER, MORE STOCK and MORE DURABLE** than any other brush, and prices as low as any in the market. Correspondence solicited.

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**Harlan's Improved Tube Well Pumps**

Combined with the famous Cook Strainer, for Manufacturers and Private Use. All kinds of Pumps Repaired, also, Blacksmithing and General Jobbing Shop, Awnings, &c. Cistern and Well Pump Manufactory.

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**Bates' Hand Elevators.**  
Patented April 18, 1871. Released July 28, 1874.  
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**HELVE HAMMER**  
Combines all the best elements essential in a first-class Hammer. Has more good points, does more and better work and costs less for repairs than any other Hammer in the World.  
**BRADLEY & CO. Syracuse, N. Y.**



## Business Chances.

**For the purpose of making the MANUFACTURERS' RECORD a still more valuable medium of communication between its readers North and South, we will publish, FREE OF CHARGE, short advertisements, not exceeding 40 words, from those in the South who have good business openings that they wish to bring to public notice, capital wanted for industrial enterprises, &c., &c.; while readers in other sections who desire to engage in manufactures at the South are also invited to use these columns, without cost, either in seeking information regarding the advantages and special claims of different localities, or for asking about good openings for men and money. This department is also free for Southern manufacturers who wish to advertise for mill managers, superintendents, engineers, &c.**

**In corresponding with any of these advertisers please mention the Baltimore Manufacturers' Record.**

**Parties advertising in this column must have replies sent to their own address, and not to care of Manufacturers' Record, unless stamps are sent for forwarding replies. Advertisements sent not in accordance with this requirement will not be inserted.**

**WANTED** to buy a tract of timber land, hickory or walnut, or both. Address W. R. E., care MANUFACTURERS' RECORD, Baltimore.

**PARTNER WANTED.**—One or more, with a capital of \$5,000 to \$20,000, to operate an agricultural manufacturing business, already in operation, or will sell the entire property; located at railroad depot; water-power second to none. Address D. K. Self, Telford, Washington Co., Tenn.

**PLANING MILL FOR SALE.**—A complete set of machinery, shafting, pulleys, &c., all in good order and ready to run; also all necessary buildings. Best location in the city. Will be sold at a bargain. Address E. H. Jenkins, Columbus, Ga.

**COTTON OR WOVEN MACHINERY WANTED** to fill a brick building 40x30 feet, with annex 40 x50 feet. Water-power, 20 tenement houses, store, barn and stone warehouse. Will take value of property in stock of cotton or wool mill. For full particulars, photographs, &c., write to W. D. Griffith, agent, Athens, Ga.

**ANY ONE** desiring to invest capital in an established well-paying manufacturing business in the South, can obtain information by addressing Lock Drawer, Letter Q., Meridian, Miss.

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**WANTED.**—A person of experience and capable of taking charge of a spoke and handle factory; must be well recommended; one who could take a small interest preferred. Address J. H. D., Calera, Ala.

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**PARTNER WANTED.**—To take half interest in a box and handle factory; prospects for a good trade; timber and labor cheap. Address box 196, Shreveport, Louisiana.

**PARTNER WANTED** to take an interest in a patent atmospheric freezing machine. Cheaper, and requires less power than any other machine made. Mahlon Conly, 1415 North E Street, Richmond, Va.

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**AGENTS** (with references) wanted to sell furniture. Address South Carolina Bent Wood Furniture Co., Charleston, S. C.

**A CABINET MAKER** can hear of a good opening in this country. A splendid water power given away sufficient to run machinery. Also wagon-making and repairing. This is a good opportunity for a man of enterprise and small or large capital. Write to S. Worthen, Bakersville, Mitchell county, N. C.

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**MACHINIST WANTED.**—A machinist with small capital, who desires to locate in the South, can learn of a good chance by addressing P. O. Box 23, Maryville, Tenn.

**FURNITURE OPENING.**—A fine opening for a furniture business in a live North Carolina town, of nearly 10,000 population, and where there would be only one competitor. Splendid prospect for the manufacture of chairs and other furniture. Address, stating amount of capital you can invest, No. 329, care MANUFACTURERS' RECORD.

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**ENGRAVER WANTED.**—A young, unmarried, designer and engraver, of moderate talent, wanted. State amount of salary desired, &c. Address immediately, Oldham Publishing House, Winston, N. C.

**TWO** New England mill men, thoroughly understanding bleaching, dyeing and finishing cotton goods, desire correspondence with manufacturers as to localities in the South possessing advantages for starting this business, what inducements offered, &c. Address D. and B., care MANUFACTURERS' RECORD.

**WANTED.**—A sober, energetic and competent man, with some capital, to take an interest in, and assume the treasuryship of a coal mining and shipping company in Alabama. His duties will be to attend to the sales of coal and coke, with office at Atlanta, Ga. A fine opening for the right man, with whom good terms will be made. Address Coal Co., care MANUFACTURERS' RECORD.

**WANTED.**—An active young man of experience in the manufacture of smoking tobacco. Must have \$4,000 to \$5,000, to join a gentleman of equal capital, to establish a manufactory South. Address Jones, care of Walton & Ewin, Nashville, Tenn.

**WANTED.**—At the Emily Mines, Spotsylvania county, Va., a first class machinist, one who understands handling pumps and pumping machinery, keeping machinery in repair, &c. To a first-class man, first-class wages will be paid. No one who drinks liquor of any kind need apply. Address Thomas J. McSpied n, Superintendent, Mine Run, Orange county, Va.

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**A YOUNG MAN**, engaged in designing and superintending the construction of machinery, wishes to hear of an opportunity in the South to invest \$2,000 to \$3,000 and services. David Eldredge, care of Ed. Wolf, 572 Eighth Avenue, New York City.

**FOR SALE.**—I offer for sale an interest in a well-established Foundry and Machine Business. A good location; a growing business; valuable patents and patterns. Control of the Southern States on a valuable specialty. For particulars address W. J. care MANUFACTURERS' RECORD.

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**I WANT** a foreman for a furniture factory. J. H. Taylor, Greenville, S. C.

### Get the Best at First.

The Holyoke Machine Company, of Worcester, Massachusetts, advertise in this issue their well-known Hercules Water Wheel. This wheel has many points of merit that strongly commend it to the attention of those who use water power. The most thorough tests have demonstrated its many good qualities. In Holyoke it is the standard water wheel, the aggregate horse power of the Hercules wheels in operation there being greater than that of all other wheels combined. These wheels are very popular in the South as well as in the North, having been in use for many years in a large number of Southern mills. There are four of the Hercules wheels now in operation in the big cotton mills of the Eagle & Phenix Manufacturing Co., Columbus, Ga., and Mr. John Hill, of that company, in writing, Feb. 25, 1885, to the Holyoke Machine Co., said: "Within the past four years I have ordered four 'Hercules' wheels, all of which have given the purchasers entire satisfaction. Three of the wheels are on regular duty in the Eagle & Phenix Mills. The first wheel ordered did so well that a 'Hercules' wheel has been added each time a new wheel was wanted. In the Eagle & Phenix Mills I supervise twenty water wheels of six different styles. The 'Hercules' is by far the most durable and best made wheel in use here, and, in fact, I know of no wheel its equal mechanically. It is all that can be desired in economy of water. In fact, it is a strictly first-class wheel in every way, and the wheel to buy, use and depend upon."

That is a pretty strong letter, but it is only a sample of letters received by the manufacturers of this wheel. Among the recent shipment of wheels have been two—one a 54-inch and one of 60-inch—to a Georgia cotton mill. Two Hercules wheels are being put in at Natick Cotton Mill, and one at the Arctic Mill of B. B. & R. Knight near Providence. This will make eleven wheels furnished to this well-known firm, one of the most prominent in the manufacturing line in New England. Hercules wheels are sold in Ireland, Scotland and on the Continent, a cable order having been received only a few days ago for one to go to France. The manufacturers say: "The Hercules gives the most power for its size and the highest average percentage from full to one-half gate of any wheel ever made." Their advice to all users of water wheels is to "get the best at first." If you are interested in water wheels, if you want a new wheel or a larger wheel, or a better wheel than you are using, write to the Holyoke Machine Co., Worcester, Mass., for catalogue No. 3.

### PATENTS.

**RARE CHANCES** for "GILT-EDGED" INVESTMENTS. The undersigned make a specialty of developing and selling *United States Patents*. They are now offering to manufacturers several new and valuable inventions at very reasonable figures, among which is a patent (just issued) for an automatic Steam Boiler Injector, and a Right Feed Lubricator, both of which have been sufficiently developed to establish their merits. For particulars address:

THE NOTEMAN MFG CO., TOLEDO, O.  
Correspondence with inventors solicited.

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Manufacturers of all Kinds of  
**WROUGHT IRON BRIDGES.**  
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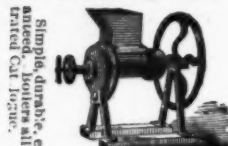
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From 3 to 10 Horse power; Boiler wrought iron.



From 6 to 25 H. P.



Best CORN MILL in the World for plantation and farm purposes.



Stationary Engines from 6 to 100 Horse Power. Portables from 6 to 25 H. P.

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Springfield, Ohio.

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Cheap.

Second Hand.

Good Condition.

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18 in. x 20 in. x 3 1/2 feet.....\$125

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40 in. swing, 56 in. between centers...\$420

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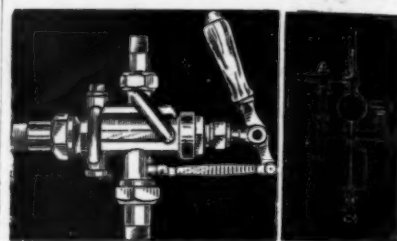
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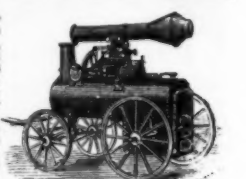
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AUTOMATIC AND  
PLAIN SLIDE VALVE,  
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Simple strong and durable.  
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A Portable 20 Horse-Power Engine and Saw Mill, with large lot of timber, if desired, within 6 miles of Farmville, and 3 from railroad. Also one 8 Horse-Power Portable Engine, on skids, Horizontal Boiler, Talbot's make. It is now mounted on truck and used for threshing wheat. Address

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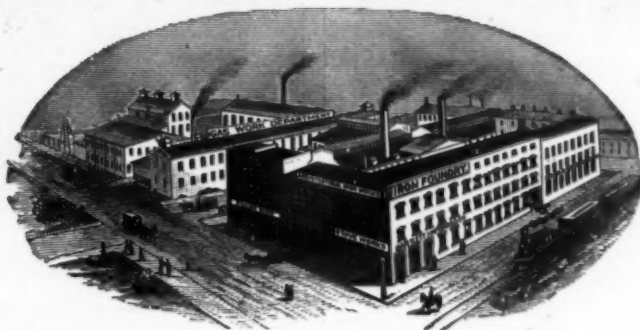
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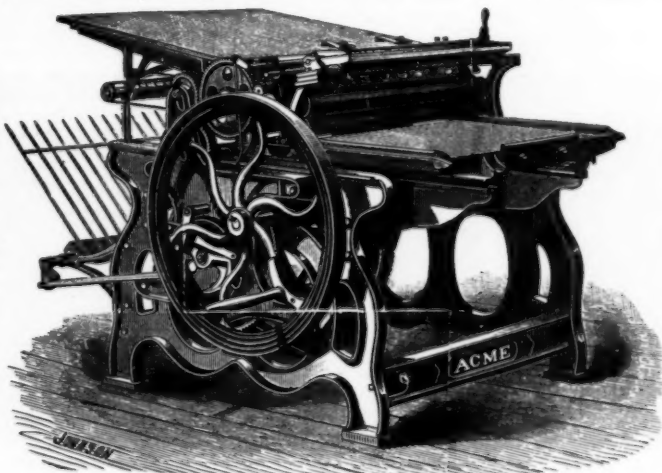
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## Stokes & Parrish Machine Co's Standard Hydraulic ELEVATOR.

Unequalled for safety, extreme simplicity, great economy in the use of water. No liability to derangement and consequent stoppages and delays. Least possible wear of ropes and other parts of the machine. Ease and facility with which the packing may be renewed. Simplicity of manipulation and operation. Smoothness and Noiselessness of motion. Freedom from shock caused by abrupt stoppages.

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FOR NEWSPAPER OR JOB WORK.



FOR STEAM OR HAND POWER.

These Presses combine, in a thoroughly perfected machine, many features whose value will be readily appreciated, including several which have never been practically developed by any Cylinder Press. Among these features are: Compact and firm in all its adjustments; the most perfect two-roller ink distribution; speed combined with perfect registration; slow movement of the bed during the impression, and quick return; suspending the impression; suspends the grippers, guides and ink; ink can be distributed without inking form; unlimited rolling of the form; composition rollers interchangeable; feeder can suspend action of the ink fountain; impression adjustable while the Press is in operation; whole form accessible for correction on the Press; quiet operation without jar; great saving in wear of type; convenient height of bed.

The present hand-power Acme Presses fully equal, in capacity for fine work, the first-class two-roller Presses of other kinds, and they run much easier, and are also capable of higher speed by steam than any other Cylinder Press manufactured for country offices or for hand operation. The convenience of changing from newspaper to poster and job work is unequalled.

PRICES, - - - \$900 to \$2,500.

Circulars, with sizes and prices, will be sent on application.

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SUCCESSORS TO

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MANUFACTURERS OF

## LEATHER • BELTING

—AND—

## LACE LEATHER,

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**ROOFING**  
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 CINCINNATI, O.  
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 COVINGTON, KY., Manufacturers of  
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 Wrought-iron Fencing, Cresting and Hardware Specialties.  
 Send for Illustrated Catalogue and Price List.

## Keep Your Steam Boilers Clean!

"An Ounce of Prevention Worth a Pound of Cure."

SAVE YOUR FUEL!

## Warner's Purifier and Heater

[PATENTED JULY 21, 1885.]

The best way to *cure* your steam boilers of incrustation and sedimentary deposit is to *keep out* of the boiler that which causes incrustation and sediment.

The chief ingredients causing sedimentary deposits and incrustation are organic matter, carbonate of lime, sulphate of lime, carbonate of magnesia, sulphate or sulphuret of iron, and in salt water common salt. The WARNER PURIFIER AND HEATER is the only machine which precipitates all impurities held in suspension, heats the water to the boiling point under full boiler pressure, separates and precipitates the mineral salts held in solution *before* the water reaches the boiler, and then injects the water thus purified into the boiler *boiling hot*. It is an automatic machine, entirely *outside* of the boiler, requiring absolutely no attention from the engineer except to blow off the accumulation of deposit from the bottom of the machine which acts as a mud-drum. All this is accomplished without the use of chemicals, by a purely mechanical process, regulated by the principles of natural philosophy.

No more "shutting down" of work to clean boilers—the machine does it all every day without interfering with the work, and by removing scale and preventing its formation, and heating the water to the boiling point *saves a large percentage* of fuel.

The WARNER HEATER AND PURIFIER COMPANY is now ready to furnish these machines on demand at very reasonable figures.

WASHINGTON, D. C., May 23, 1885.  
 This is to certify that I have made a careful examination of "Warner's Combined Purifier and Heater of Feed Water" in practical operation at the "Harris House" and "Post Building," in this city, and do not hesitate to pronounce it the *best* machine for the purpose ever invented. By its use the water goes into the boiler free from all impurities and heated to the boiling point under full boiler pressure, and as the result of the injection of pure water, the boiler is freed from scale and kept clean, while a large saving is made in fuel by the removal of the scale and heating the water to the boiling point *before* it enters the boiler. By the use of this machine the necessity of "shutting down" in order to blow out and clean the boiler is wholly obviated, as the impurities are all collected in the bottom of the machine, which can be blown out as many times a day as the engineer thinks proper without interfering with the workings of the boiler. I confidently commend this machine to all persons who own or use steam boilers, and am satisfied that its use will prolong the life of the boiler and make a handsome saving in the use of fuel.

(Signed) JOHN H. WILKERSON,

Inspector of Steam Boilers for District of Columbia, 220 7th Street, S. E.

"HARRIS HOUSE," COR. PENNSYLVANIA AVENUE AND E STREET, N. W.

WASHINGTON, D. C., June 23, 1885.

This is to certify that one of "Warner's Purifiers and Heaters of Feed Water" has been in use on one of the boilers of the Harris House, in this city, for three months, and has proved a perfect success. The boiler upon which the machine was placed was at the time covered with a heavy scale composed of animal and vegetable matter, lime, &c., which, by the use of this machine, has been entirely removed, the boiler being now as clean as when it came from the boiler-maker. This has been entirely accomplished, without the use of chemicals, by the injection of pure water through the "Purifier and Heater." This machine injects the water into the boiler heated to the boiling point under full boiler pressure, and by this means, together with the removal of the scale, results in a large saving of fuel. It is also invaluable in the purification of the water for laundry purposes. The machine is self-acting, and prevents the necessity of "shutting down" in order to blow out the boiler, as the impurities are all concentrated in the bottom of the machine, and can be blown out through the machine as often during the day as the engineer may deem advisable without interfering with the working of the boiler. I am convinced that its use will prolong the life of all boilers upon which it may be placed, save a large percentage of fuel, decrease the danger of explosion, purify the water for all purposes, and give general satisfaction. I confidently commend it to all hotels using steam and to owners of steam boilers generally as a much needed improvement that will do the work claimed for it thoroughly.

(Signed) JOHN H. HARRIS, Proprietor of Harris House, Washington, D. C.

WASHINGTON "POST" BUILDING, WASHINGTON, D. C., June 23, 1885.

This is to certify that one of "Warner's Purifiers and Heaters of Feed Water" was placed upon the boiler of the Post Building about 60 days ago as a test. At that time the boiler was covered with a heavy scale of animal and vegetable matter, lime, &c., which it was impossible to prevent. By the use of this Purifier and Heater, which injects the water into the boiler free from all impurities and heated to the boiling point, the scale has been removed and the consumption of coal reduced. The machine works itself and is invaluable as a purifier of water to all branches of business requiring pure water, such as hotels, laundries, &c., and a much needed adjunct to all steam boilers, prolonging their life, decreasing the danger of explosion and effecting a large reduction in the consumption of fuel. I confidently commend Warner's Purifier and Heater to all owners of steam boilers, being confident that their interests will be subserved by its use.

(Signed) J. FRANK MCGUIRE, Superintendent and Engineer Post Building.

ADDRESS,

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 In the World is the Montross Patent  
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 Cheap, Durable, Handsome, Fireproof.  
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 "Experience of 30 years; think your Asphalt Iron Paint the only kind of roofing or tank paint worth one cent per square."—W. P. Proudt, Superintendent De Soto Oil Mill, Memphis, Tenn.  
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We warrant it superior to any Metallic Paint for all exposed surfaces, wood, brick or metal; colors: red, brown and black. For circulars address

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**T. C. SNYDER & CO.**

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## IRON ROOFING, SIDING AND CEILING,

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PLAIN,

Corrugated,

CRIMPED,

BEADED.



AND JOBBERS IN

IRON ORE,

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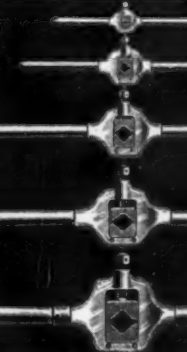
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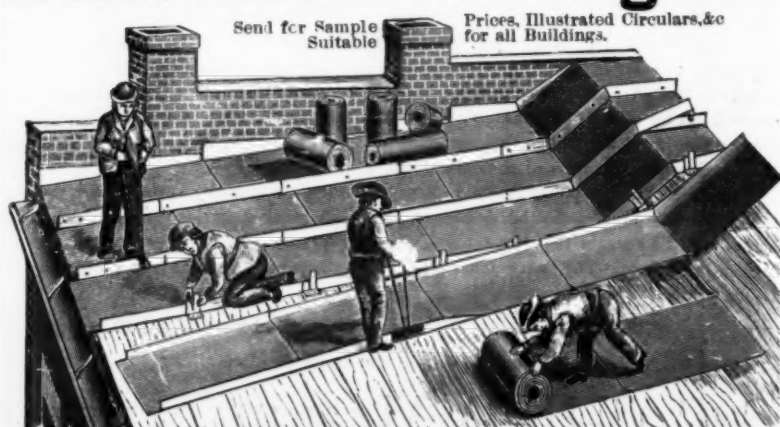
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**THE BILLINGS**  
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 MANUFACTURERS OF  
 DIES MADE IN 5  
 THREADS FROM  
 TO 2 INCHES V  
 U.S. STANDARD AND  
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**& SPENCER CO.**  
 CONN.  
 SCREW PLATES AND  
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 1/16 OF AN INCH  
 THREAD. ALSO  
 WHITWORTH THREAD.  
 OF BAR STEEL.

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## For DITCHING, EXCAVATING

Loading Wagons

and Cars, Etc.

50 TO 100 PER CENT. SAVED  
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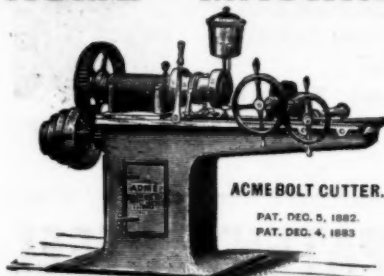
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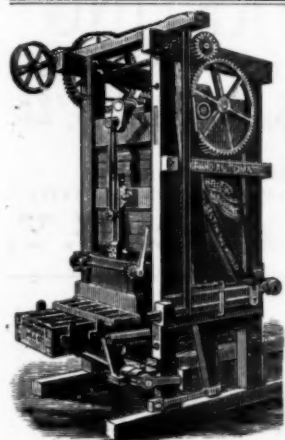
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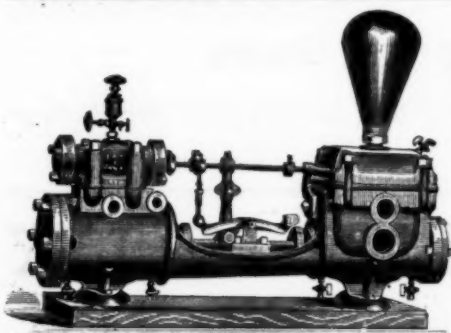
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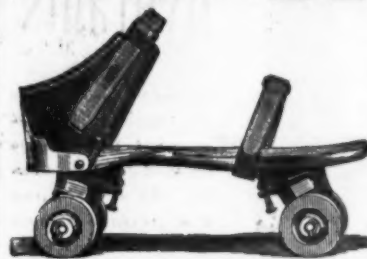
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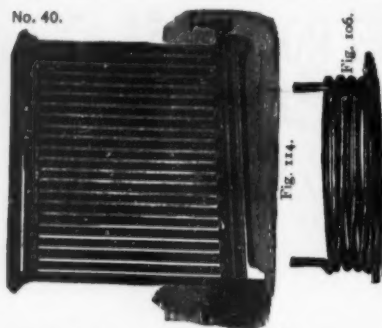


Fig. 106.

Fig. 114.



Fig. 115.

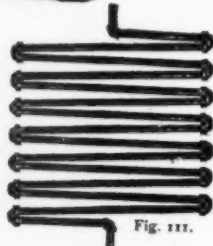


Fig. 111.

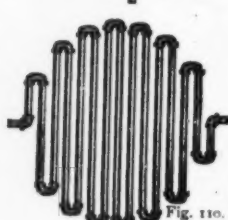


Fig. 110.

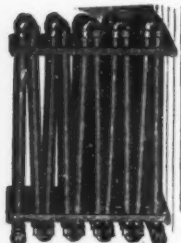


Fig. 118.

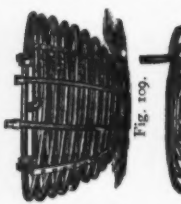


Fig. 107.

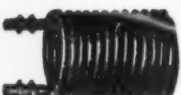


Fig. 105.

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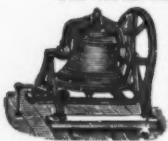
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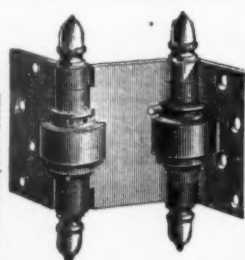
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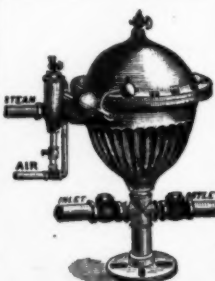
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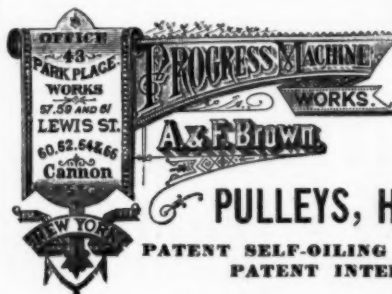
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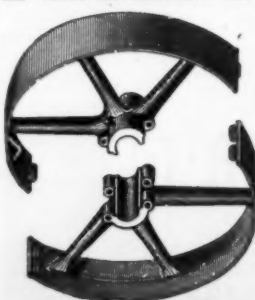
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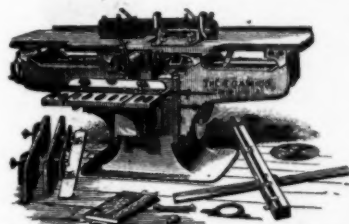
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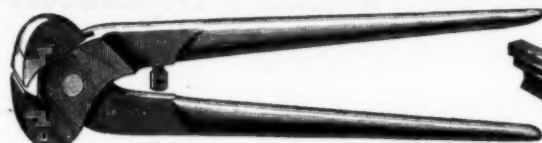
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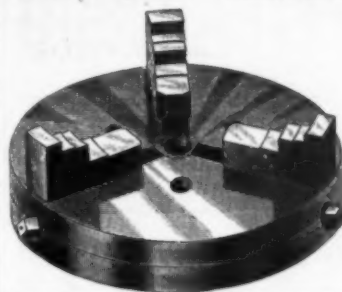
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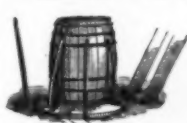
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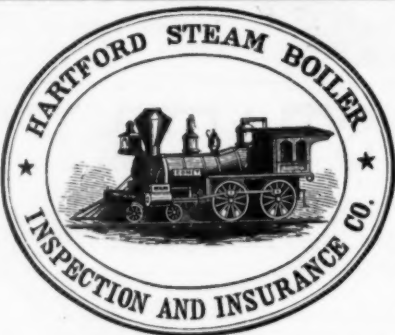
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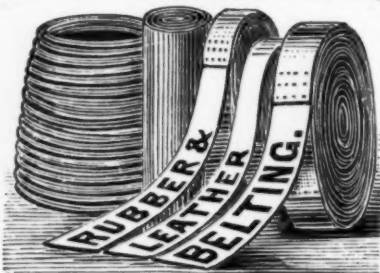
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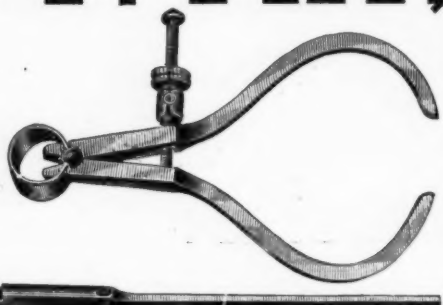
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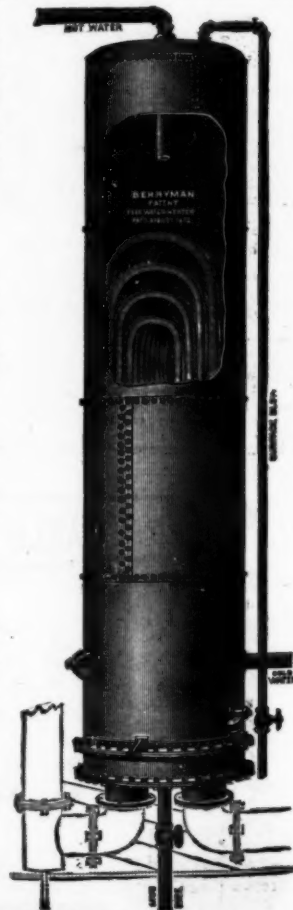
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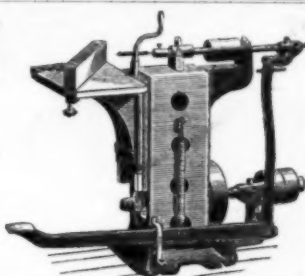
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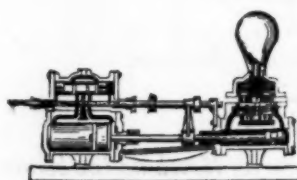
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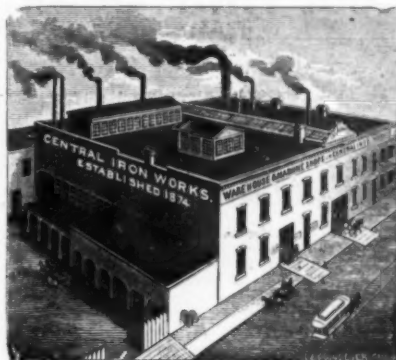
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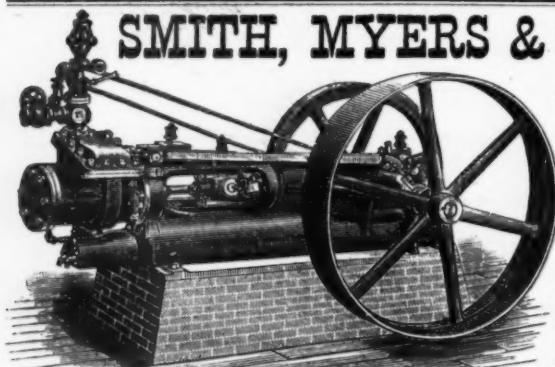
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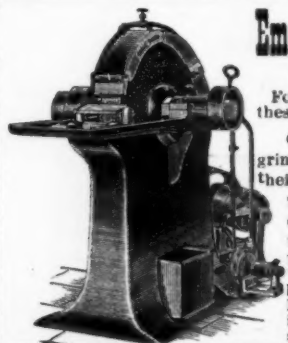


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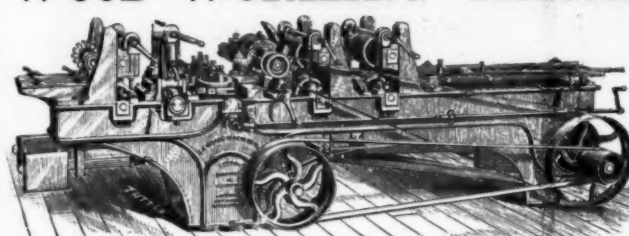


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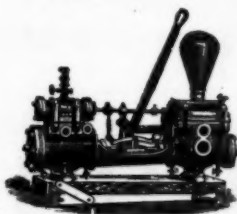
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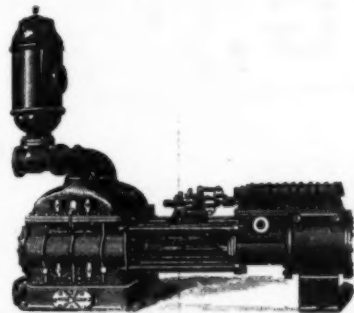
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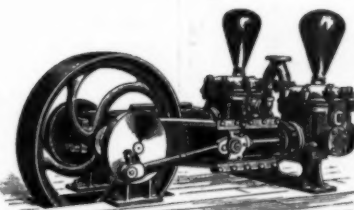
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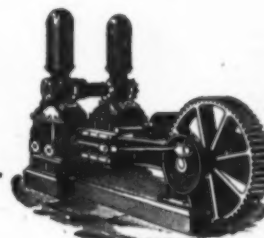
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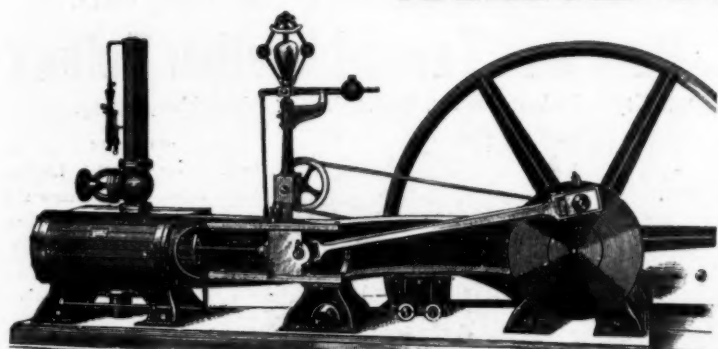
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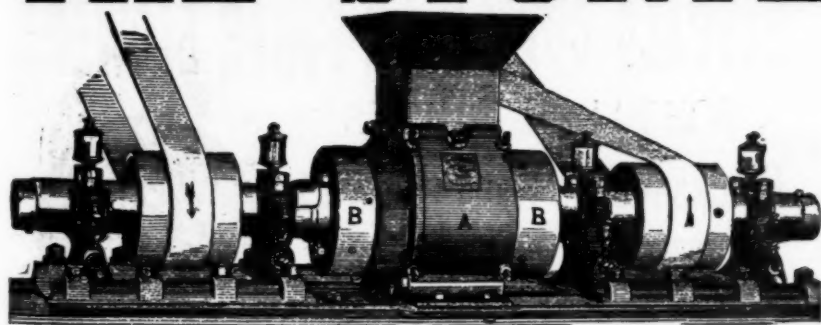
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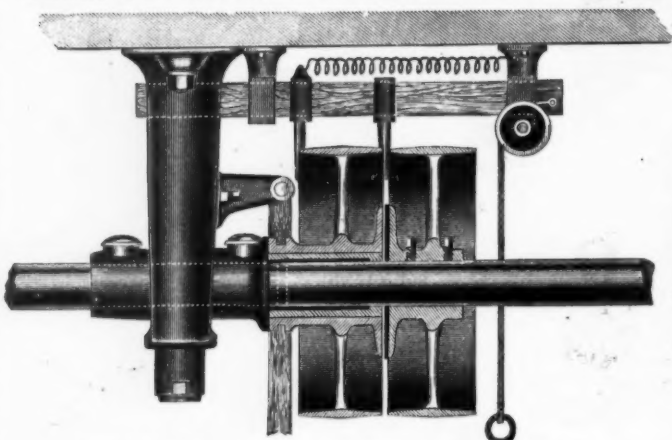
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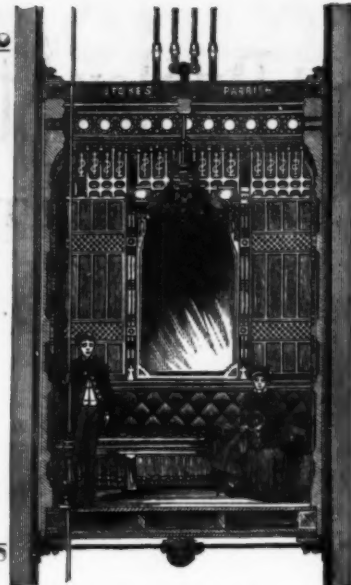
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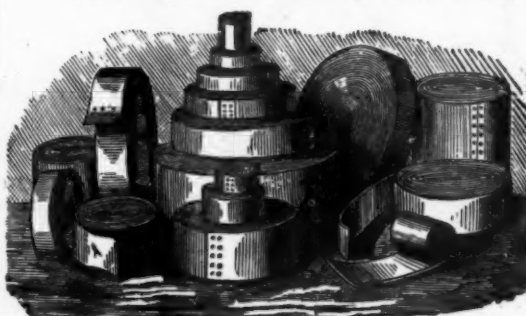
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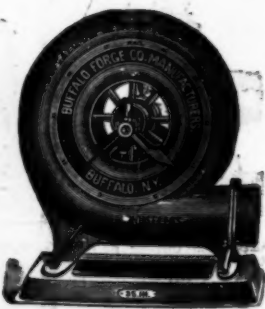
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